a W. R. C. Smith publication

# Textile Industries

Formerly "COTTON"

JUNE, 1955

**TUFTED TEXTILES . . . . 103-138-D**

Special Section on tufted textile industry includes: History, how tufting is done, machinery used, how tufteds are dyed, news and opinion, etc.

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5 REASONS
why you get
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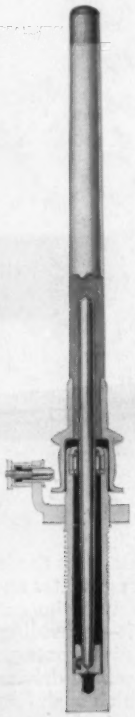

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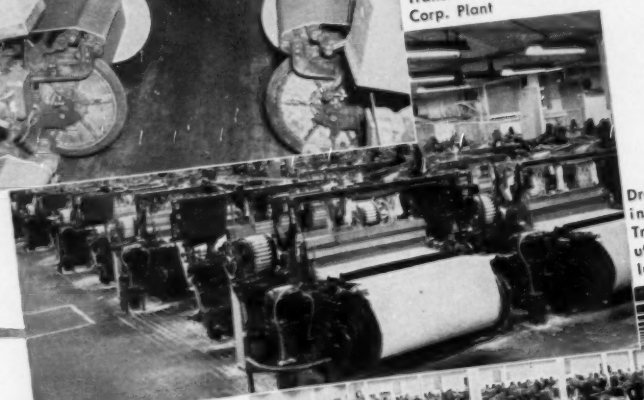

Draper XD looms operating with Diehl Power Transmitters at Bibb Manufacturing Company, Columbus, Georgia.

Draper XD looms operating with Diehl Power Transmitters at the Lyons Plant, Synthetic Division, M. Lowenstein and Sons.

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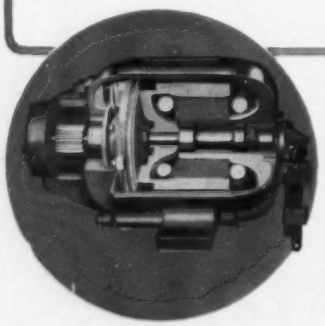

This cutaway view illustrates the inverted construction of the power transmitter and shows the rotor which revolves around the outside of the stator on a hollow shaft—providing the essential inertia without the disadvantages of a separate fly wheel. Note the pinion driving shaft with attached clutch-plate which is shifted axially by simple lever at front end of motor, regulating clutch engagement pressure and providing controlled driving and braking action.

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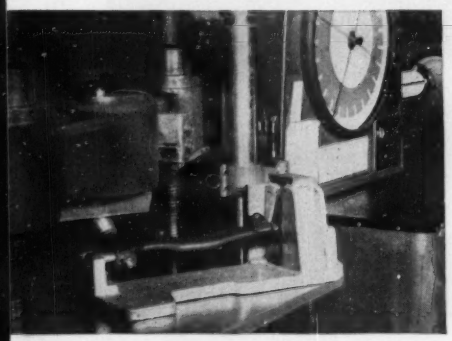

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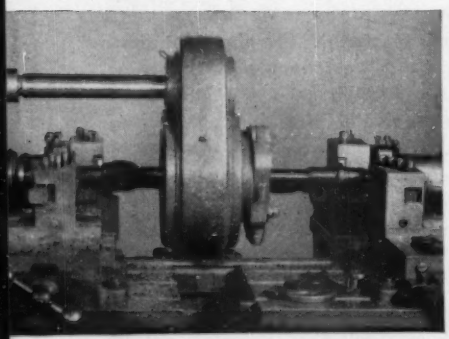
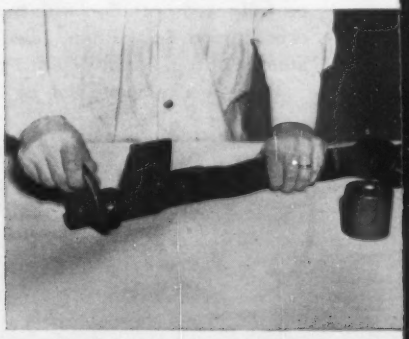


Precision machine tools enable close tolerances to be held.



Use of gauges in final inspection permits high standards of uniformity and quality to be maintained.

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# Textile Industries

*Formerly "COTTON"*

Vol. 119, No. 6
June, 1955

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| A special 40-page section containing an exclusive staff report based on an objective study of the tufted textile industry. Includes: History of the industry, principle of the tufting operation, the machinery used, dyeing of tufteds, how textile mills serve tufters, market for carpets and rugs, news and opinion, etc. | | | | | | |
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TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A. W. J. Rooke, chairman of the board; R. P. Smith, president. Executive and Editorial Offices: 806 Peachtree St., N. E., Atlanta 5, Ga.
Subscription Rates: United States and Possessions, $2.00 for one year; Canada, South America, Central America, $2.00 per year; Foreign Countries, $5.00 per year.
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**Carpet and Rug Cores**

**Yarn Tubes**

**Cloth Winding and Baling Boards**

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# Shorts and Remnants

by J. C. C.

*"Oh what is so rare as a day in June*
*Then if ever come perfect days . . ."*

► Also, then if ever come poems such as the following from **George D. Malone,** superintendent Exposition Cotton Mills Company, Atlanta, Georgia. He says the facts can be verified in the April 1955 issue of TEXTILE INDUSTRIES [page 157], so here goes:

In grammar school they taught us
all—and we still know its true—
That food and clothes and shelter
are three *musts* required by you.
In times of peace, in times of war,
these three are all essential;
Our peacetime needs are great, but
threat of war demands potential.

Now my concern in writing this you
may have guessed—the tariff—
If it goes down imports increase, but
maybe you don't care if
More textile workers lose their jobs
and join the unemployed.
Small stockholders by thousands lose
their savings once enjoyed.

Domestic competition is (with foreign
*help* not needed)
So very keen that only those whose
managements have heeded
The very latest methods can survive
at all today,
For inefficiency and obsolescence will
not pay.

But spindles by the millions—from
less than two to more than eight—
Japan has gained since World War
Two, so let's not under-rate
The yards of cloth she ships to us—
one hundred million yearly
Or even more, it grows and grows,
and for it we pay dearly.

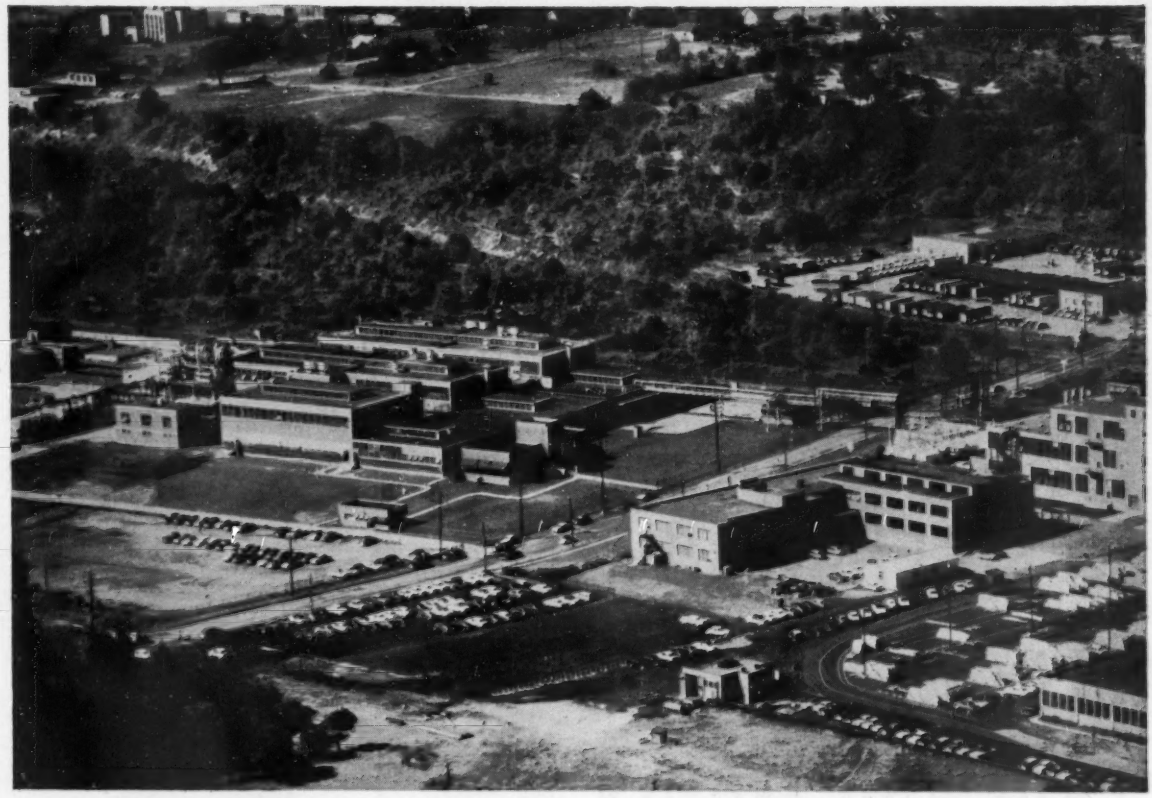
One hundred fifty thousand jobs
(since eighteen months ago,
For U. S. textile employees) just
simply are no more!
How many of these jobless got an
Army-Navy *E*
Or served the land in uniform by air
or land or sea?
And now are called upon again, in
somewhat different way,
To rehabilitate the ones they fought
the other day.

But mass production methods, tech-
nological know-how—
Don't our superiorities a profit still
allow?
Our college campuses are full of
foreign students now;
Our centers of research give aid
abroad to show them how.
We lend or give them money for the
very best machines;
If they can't learn with all of these,
they're slower than it seems.

In spite of this we could compete;
but here a worker's fee
Will buy him more to eat than rice,
and even a T.V.,
While Japanese are earning less than
fourteen cents an hour.
Should we equalize the two? Would
you, if you were given the power?

Now tell us what would happen
when and if we have a war,
And the services and industries need
textiles more by far?
Could we re-train the workers and
rebuild mills once dependable—
The mills that now our State De-
partment seems to deem expendable?

► Also, then if ever come such of-



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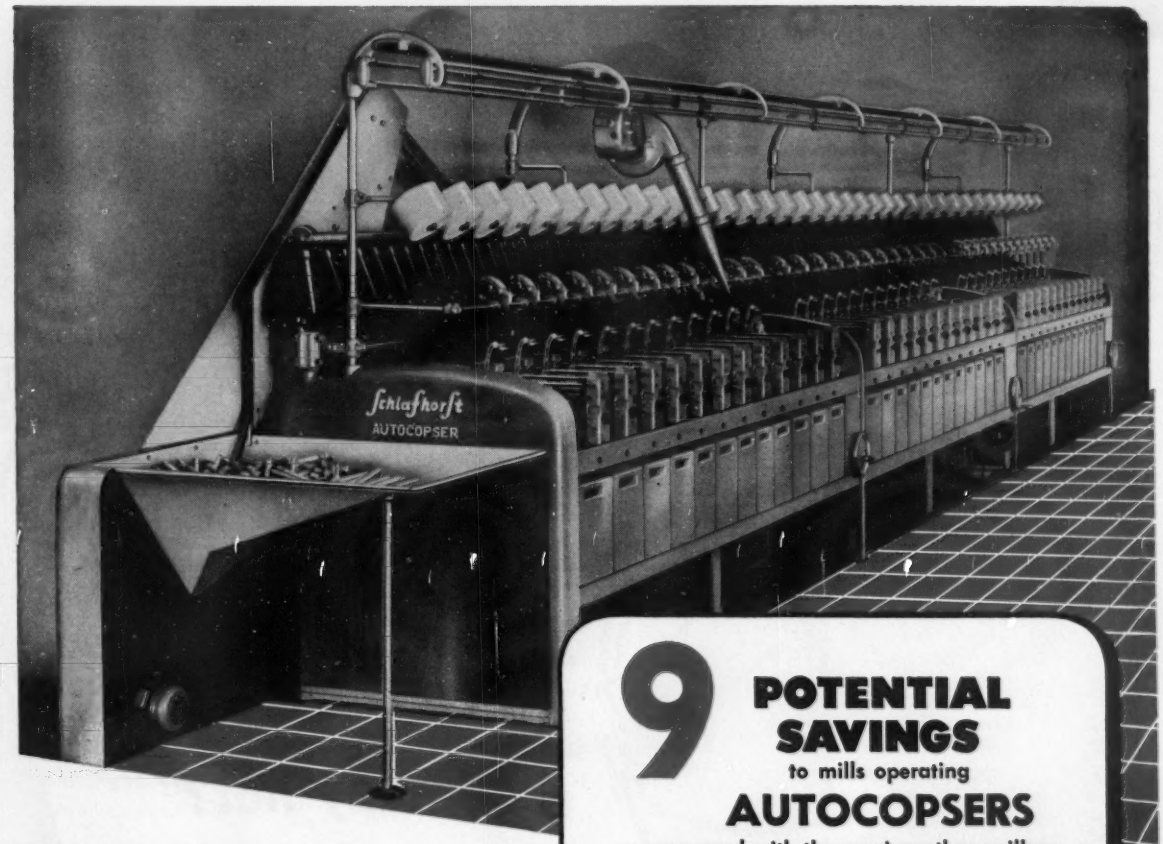
## Shorts and Remnants

fers as the one submitted to TEXTILE INDUSTRIES' readers and headed "For Immediate Release" from Relax-It Vibrator, Inc., of North Hollywood, California. "Turn Beautiful with Simple Turn-Style Plan . . . You will feel like a new person, what's more, you will look like one." That's what they say. Here is the picture they sent along with it:

► We hope you found the presentation of America's Textile Schools in our April issue interesting. **Barbara A. Browne** of Lowell Technological Institute writes "We at L.T.I. are delighted . . thank you for the excellent handling . . . . " **Stuart H. Carroll** of the Philadelphia Textile Institute writes " . . . I would like to thank you and your magazine on behalf of our trustees and officials for this fine presentation which is valuable to the industry. . . . "

► Among early requests received for reprints of this attractive six-page folder were those from **Earl D. Rhodes,** V. P. of F. C. Huyck & Sons, Kenwood Mills, Rensselaer, N. Y.; **P. B. Stephens,** Mgr. Coats & Clark, Inc., Pelham, Georgia; **Robert F. Lederer,** National Cotton Council of America, Washington, D. C.

► **Thomas S. Warren,** president of Ultra Violet Products, Inc., South Pasadena, California, writes "Without the excellent response we have received through the advertisements and news stories carried by TEXTILE INDUSTRIES our rapid growth would

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- Guaranteed Parts Supply from Adequate Stocks maintained by THE TERRELL MACHINE CO. IN CHARLOTTE, N. C.
- Dependable SERVICE and Periodical INSPECTIONS.

# 9 POTENTIAL SAVINGS

to mills operating

## AUTOCOPSERS

as compared with those using other quillers

AUTOCOPSER OTHER
CAPITAL INVESTMENT

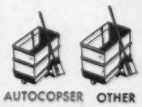
AUTOCOPSER OTHER
DIRECT LABOR COSTS

AUTOCOPSER OTHER
FLOOR SPACE REQUIRED

AUTOCOPSER OTHER
POWER USE

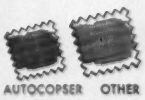
AUTOCOPSER OTHER
MAINTENANCE COSTS

AUTOCOPSER OTHER
QUILLS IN CIRCULATION



AUTOCOPSER OTHER
INDIRECT LABOR

AUTOCOPSER OTHER
WEAVING EFFICIENCY



AUTOCOPSER OTHER
INSPECTION AND MENDING COSTS

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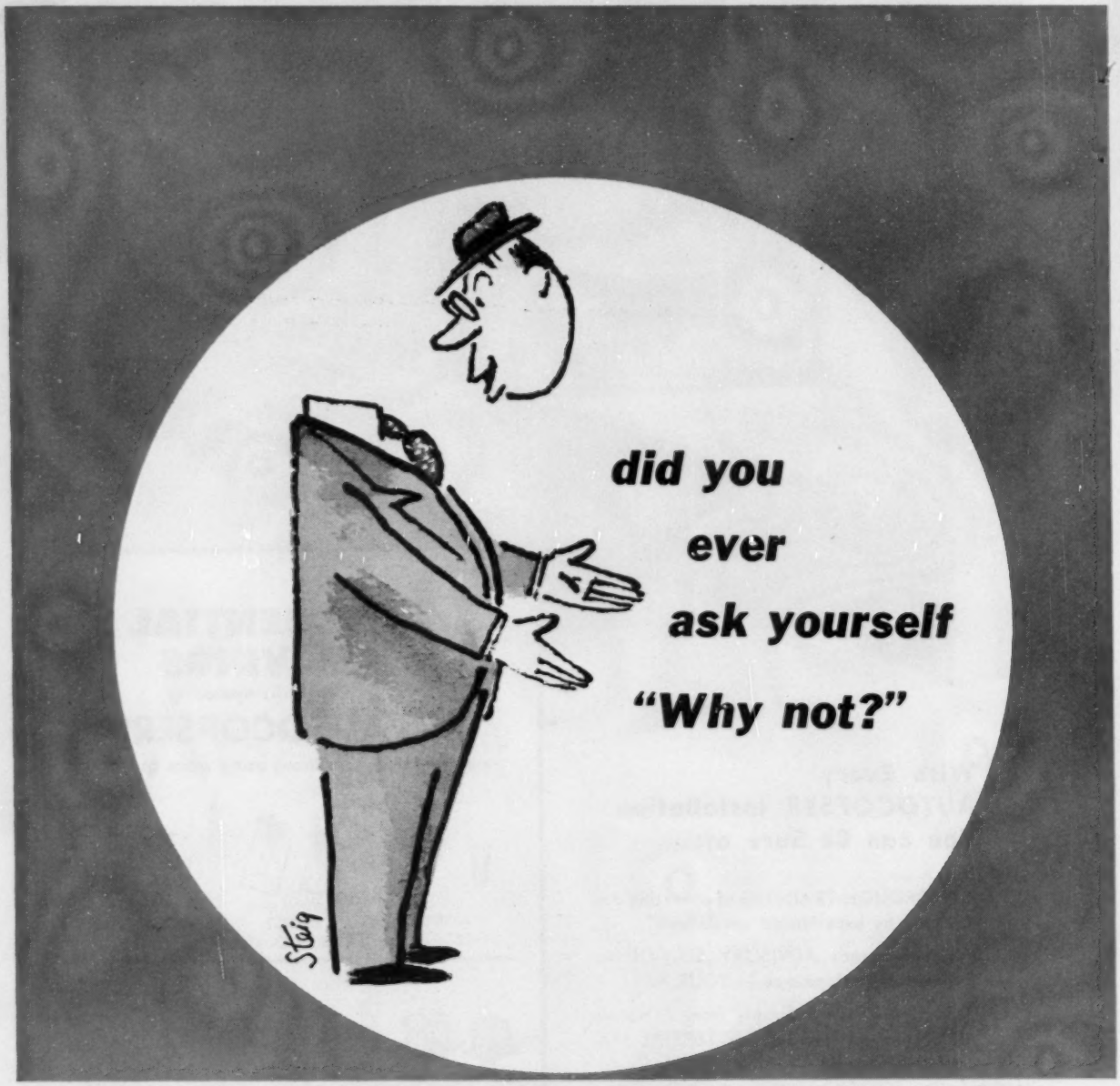


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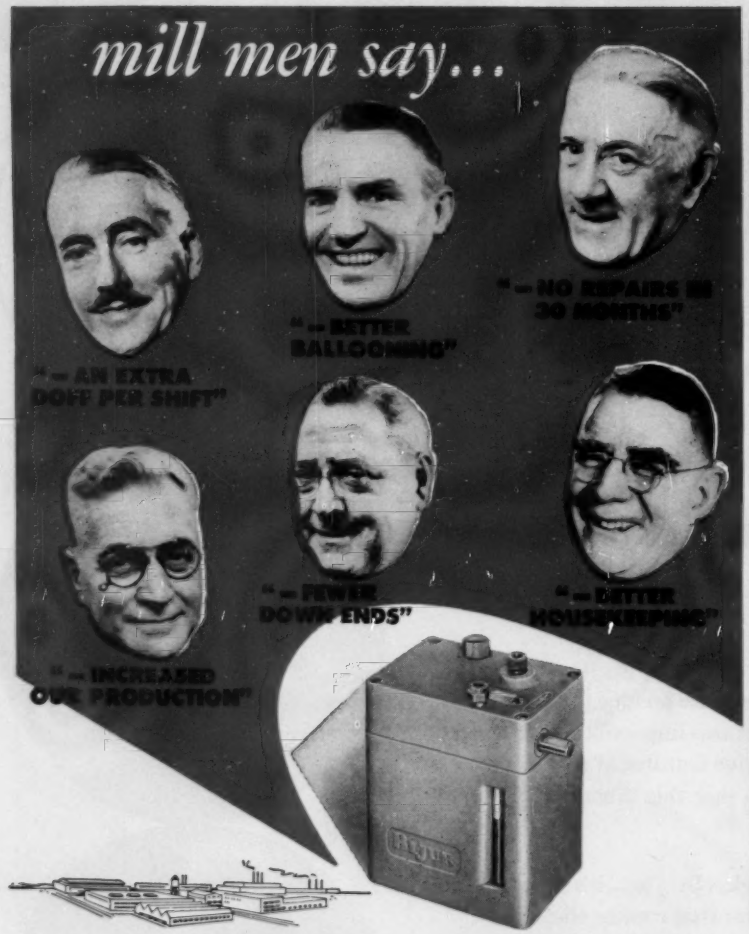


with **BIJUR** AUTOMATIC LUBRICATION

"INCREASED production, big cuts in repair costs and maintenance man-hours" — You'll hear this from mill men who have switched to Bijur automatic lubrication.

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Machines are lubricated while running which eliminates downtime for oiling and avoids injuries to workers. You save up to 50% on oil consumption. There's no excess oil to splatter and spoil materials and cause fire hazards.

With all these impressive benefits, it's time to discard hit and miss hand oiling. Let a Bijur field representative help you to incorporate the Bijur Automatic Lubrication System into your machines.

*Colorful, new bulletin, "From Fibre to Fabric," shows the practical benefits that Bijur Automatic Lubrication offers to the Textile Industry. Write for your copy.*

**BIJUR**
LUBRICATING CORPORATION
Rochelle Park, New Jersey
*Pioneers in Automatic Lubrication*

D-8 1033


## Shorts and Remnants

not have been possible." We thank you, Mr. Warren, but we have looked in vain for those advertisements mentioned.

► **I. D. Carter,** chemist, American Cyanamid Company, Stamford, Connecticut, writes for two reprints on "Here's Five-Step Program to Reduce Consumer Complaints" [March '55] and says "A very good article."

► **Sanford Kranich,** V.P., Tioga Weaving Company, Inc., York, Pennsylvania, asks about the handling of loom finished fabrics to keep them clean. Here's that "The Man in the White Suit" [January '55] again.

► Two advertising campaigns running in TEXTILE INDUSTRIES and created by George T. Metcalf Company, advertising agency of Providence, R. I., came in for awards at the National Advertising Agency Network 1955 competition. Franklin Process Company got two merit awards and one excellence award. Ashworth Brothers, Inc., got honorable mention in the Creative Awards Competition. We are happy to have carried these campaigns.

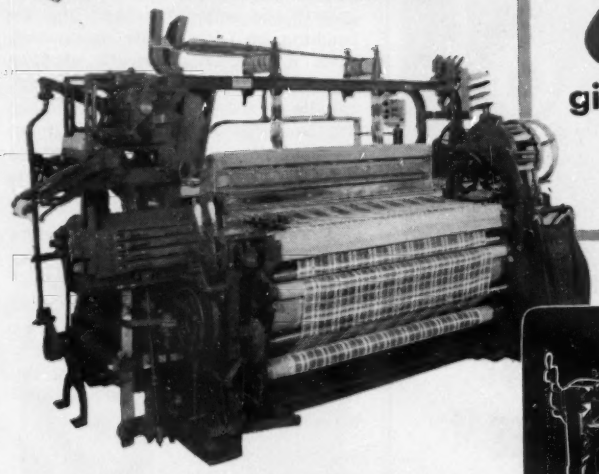
► If you figure that you go to work too early in the morning, you might be interested in the release from the New York Board of Trade stating that 58 per cent of over 63,000 office employees and 94 per cent of over 158,000 factory employees in the drug and chemical industry start to work before 9 a.m. In fact, 76 per cent of factory starting times were 8 a.m. or earlier. It makes us sleepy to even think of it.

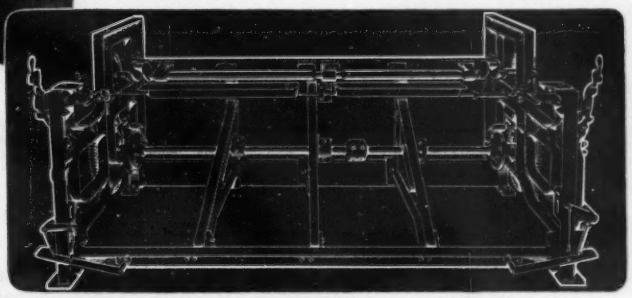
► News from the knitting industry gathered here and there (including a right good Knitting Arts Show by the sea at Atlantic City) would indicate an upward trend in all branches of this part of the industry. Full-fashioned sales are increasing, and finer gauge machines are on the increase.

► Stretch hose are all over the place—full-fashioned as well as seamless socks. Mills are putting out guaranteed packages on full-fashioned—like the "Bachelor's Friend" for men. We read in the paper about a man who took off his shoes in the movie and put his feet up on the seat and got a toe bitten by a baby in front of him. Maybe we will have to

# M-P *Convertibility*

**gives Machine-gun Protection *against surprise attacks by shifting fabric-fashions***





At the right is the basic loom-frame for the whole **M-P** line. Above is an **M-P** 20 harness (1 5/32" gauge) 4 x 1 box Automatic Dobby Loom . . . one of the many types of looms which can be built on this same basic frame. Ask your C&K representative to explain the full scope of **M-P** Convertibility.

Would a sudden shift in fabric construction catch you with only a "single-shot" defense . . . like the old-fashioned squirrel rifle? Not if your weave room is adequately protected by C&K's modern, Multi-Purpose Looms. For then you have an unlimited number of "shots in the magazine" . . . with which to meet attacks from any flank.

Only these new **M-P** Looms have this advantage of *quick convertibility as required* . . . which means that you can have . . . on the same basic loom-frame . . . a wide choice of letoffs, takeups, shedding mechanisms, feelers . . . as well as lay constructions in an unmatched range from single shuttle, single color to 7 shuttles, 7 colors.

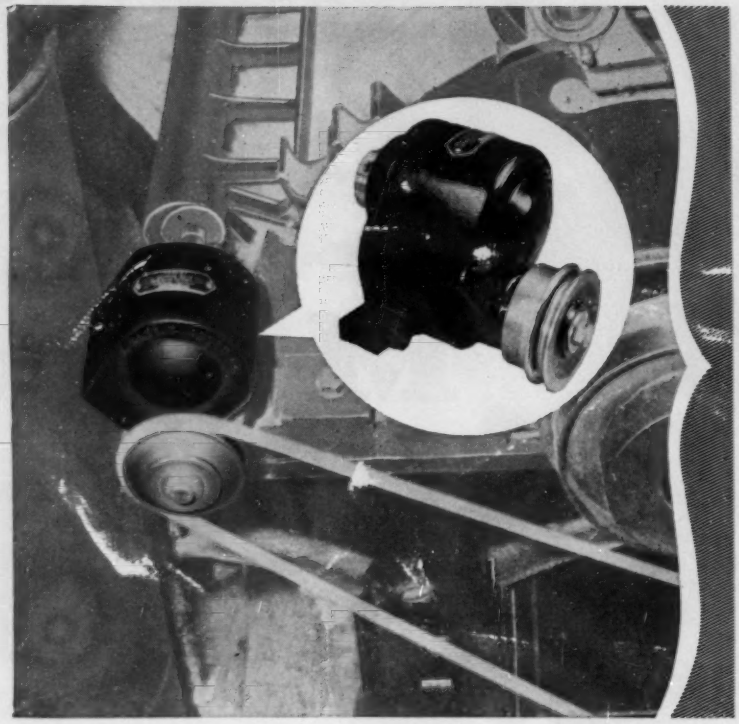
And this **M-P** Convertibility is the strongest defense your mill can have. See C&K . . . and see exactly how and why these new **M-P** Looms mean More Profit in *any* weave room.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

## *Crompton & Knowles* LOOM WORKS

**WORCESTER 1, MASSACHUSETTS, U. S. A.**

**Charlotte, N. C. • Philadelphia, Pa. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.**



# OUTSTANDING SUPERIORITY OF SOUTHERN STATES COMB BOXES PROVED IN NATION'S MILLS

More than 30,000 Southern States Comb Boxes have been placed in service during the past 7 years—equal to 35% of all the nation's cotton cards. Many mills have changed over 100%.

This overwhelming acceptance proves conclusively that mills can easily justify the small investment. Card-room overseers quickly recognize the savings that result from their use: no oiling, cleaning or maintenance for the life of the unit; steady, even strokes to drive the comb with perfection; elimination of hot-running, leaky, rattling old-style boxes and their headaches.

Southern States Comb Boxes are furnished complete with an adjuster base for mounting on any make of cotton card. Bases are double tapped to permit rapid mounting on either right or left hand cards. Installation is quick and easy.

Let us show you with facts and figures how it has paid hundreds of mills to install Southern States ball-bearing, sealed-for-life, Comb Boxes; prove how much they will save you in one year. Write direct for a representative to call at your convenience.

SS®

**SOUTHERN STATES**

**EQUIPMENT CORP.**

HAMPTON, GEORGIA

## Shorts and Remnants

look for a stronger fiber for men's socks.

► Reporters say men are wearing pants shorter. Remember S & R said in Feb. '55 "if pants go up, socks will not be far behind."

► The American Cotton Manufacturers Institute also met by the sea at Palm Beach and heard encouraging words from T. V. Hauser, chairman of Sears Roebuck & Company, who said that population growth and better merchandising are catching up with textile production. With a population growth of over 8 per cent in five years and a slight spindle decrease, markets are stabilizing. Seems also as though folks have been getting a bargain on textiles with competition between fibers and mills.

► TEXTILE INDUSTRIES' readers with family size swimming pools also seem to be in for a bargain in June as the Wallace, Davis Company of Hamden, Connecticut, seems to think that you all will be interested in "Diaclear," the portable filter for the family size swimming pool as pictured below:

► A new equipment item that S & R happened to be watching in April has already had inquiries coming in on that yellow return card from: **H. Chassman,** Pres. Pondville Mills, Auburn, Mass.; **Hollis Brown,** Overseer Carding, Guilford Woolen Mills Company, Guilford, Me.; **D. I. Beal,** Supt. Farnsworth Mill, Lisbon Center, Me.; **Gaston Warlop,** Supt. Branch River Wool Combing Co., Inc., Woonsocket, R. I; **Roger Milli-**

**ken,** Pres. Deering, Milliken & Co., Spartanburg, S. C.; **Theodore Williams, Jr.,** Excelsior Mills, Union, S. C.

► Some of these wanted prices. A couple more inquiries for new equipment came from **R. C. Reinhardt,** Supt. Martel Mills, Spartanburg, S. C., who wants prices on rolls of Guider, Roll & Service Co.; and from **L. A. Stadley,** V.P. Klopman Mills, Inc., Greensboro, N. C., who enclosed card for prices, delivery, and data on Chapman static eliminator.

► **E. A. Terrell,** president of Terrell Machine Co., Charlotte, N. C., comes in for a big spread in the *Charlotte Observer* on his recent tour of Germany. He reports reconstruction and industriousness in that country with some unemployment still noticed and unions more interested in gaining political power than in bettering working conditions. Mr. Terrell predicts continued increase in German machinery production—including textile.

► Another newspaper article [this one in the "Washington (D. C.) Star"] honors **Charles E. Daniel,** of the Greenville, S. C., construction company bearing his name, as a principal

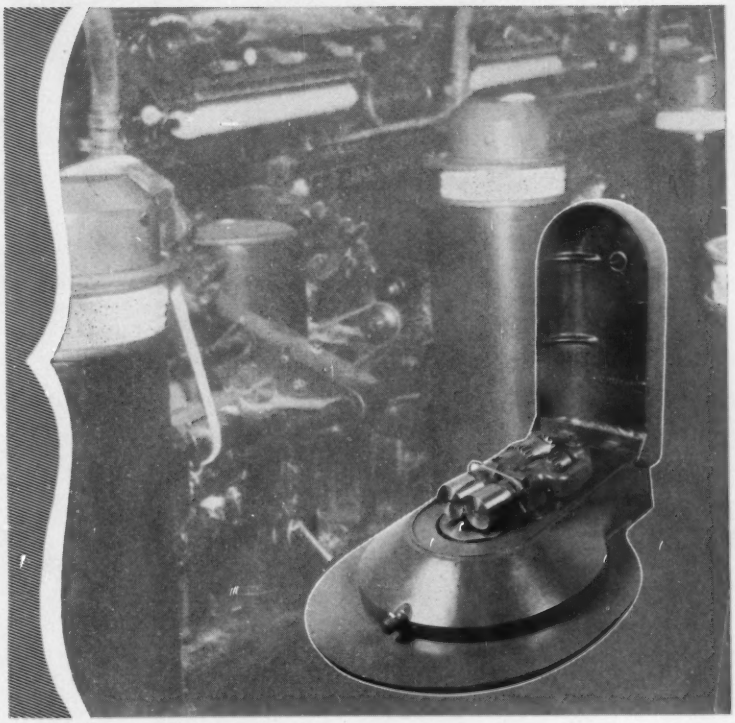
driving force behind the textile buildup in the Carolinas. A shadow of what is to come is predicted. "In the wake of the textile shift (to the South) manufacturers of textile machinery and the producers of chemical materials that are woven into synthetics are heading Southward to get nearer their market."

**Got Color Principles Inquiries**

"We have been very pleased to receive the constant flow of inquiries for our Color Principles booklet . . . "

R. O. DAY
Adv. Mgr.
Sandoz Chemical Works, Inc.
New York, N. Y.

► Thank you Mr. Day. Other readers interested in this booklet may get

# SOUTHERN STATES COILER HEADS MAKE CONVERSION TO LARGER CANS A SELF-PAYING PROPOSITION

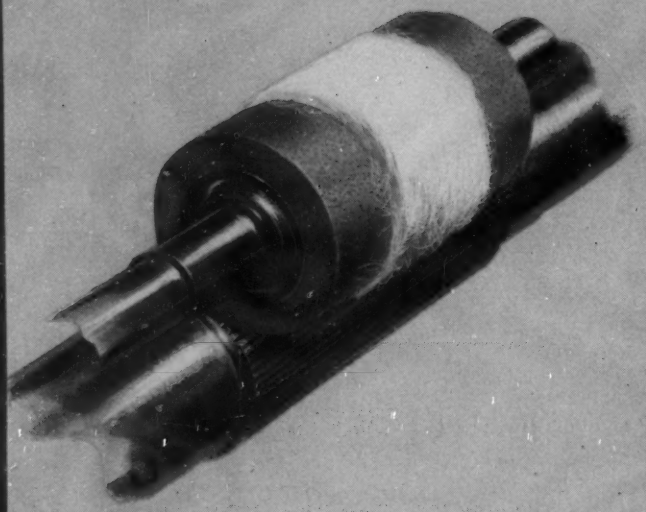
Every mill man with an eye for ways to cut card room operating costs knows the advantages of larger cans. But what some don't realize is that Southern States conversions are so economical that they pay for themselves—a fact proved by case histories of mills throughout the country.

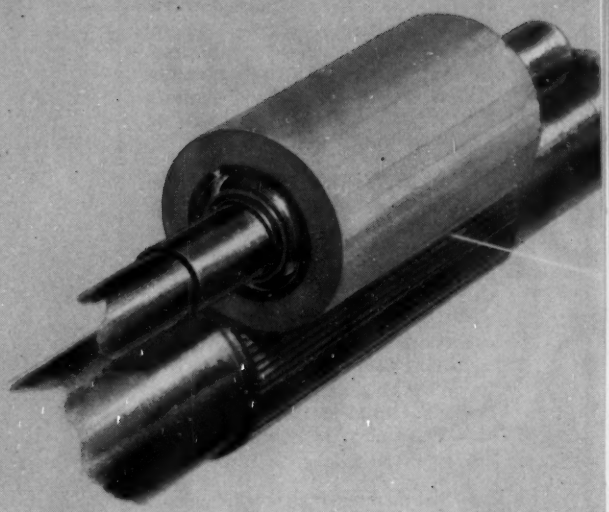
The Southern States Universal Coiler Head, illustrated above, is designed for either 14- or 15-inch cans. It is adaptable to any make of coiler. Using this head, intermediate gearing, coiler base and *your existing stand,* an inexpensive installation can be made in your mill.

Then you can enjoy all of these advantages: simplified oiling; ease of maintenance; smaller parts inventory; more efficient handling; lower operating costs; and improved quality. The photograph shows the simplified design of this head. Notice the streamlined cover and bonnet. Cut tooth gears and oilite bearings are used throughout. It is precision built for years of satisfactory service.

Get full facts from your Southern States representative, or send your request direct to the home office for a quick reply.

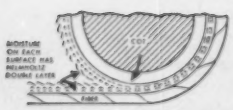
SS
SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA



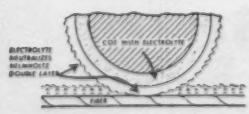


# Go from this.....to this.....

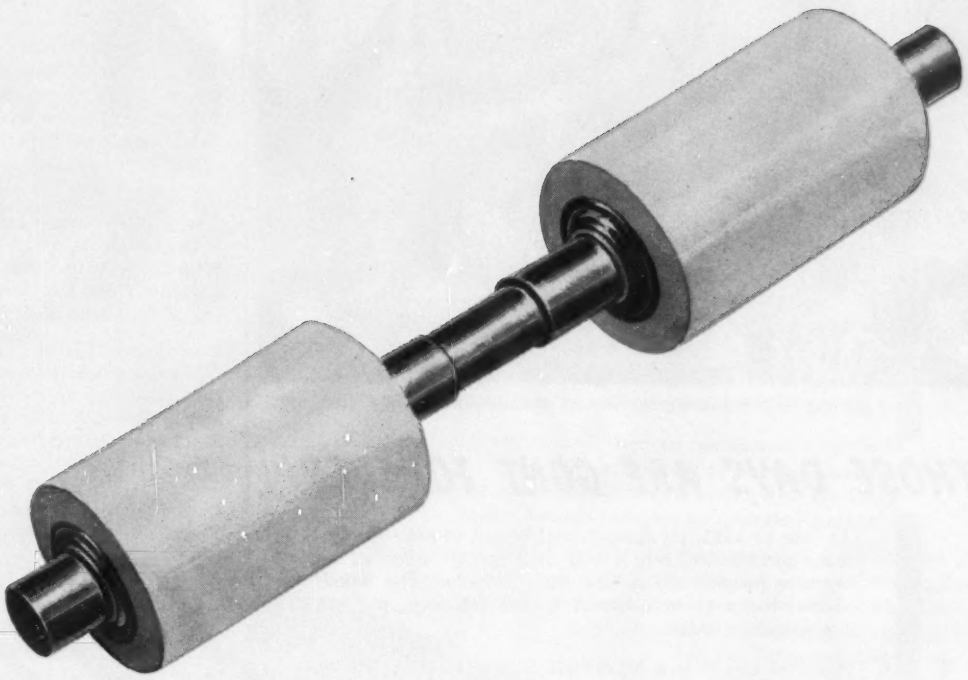
## *What makes a cot lap? – Here's the answer:*




**THIS COT LAPS:** Moisture layers on fiber and cot contain electrical charges. When pressed together in spinning, these electrically charged moisture layers tend to adhere to each other. When an end breaks, this attraction is strong enough to hold the yarn and cause lapping.




**THIS COT DOESN'T LAP:** Electrolytes incorporated in patented Accotex composition neutralize the electrical charge in the moisture layer on the cot. Therefore, there can be no attraction between the cot and its moisture layer and no tendency for fibers to lap up onto the top roll.



# . . . . . with J-490 Cots

## LAP-RESISTANT J-490 ACCOTEX COTS GIVE YOU STRONG, EVEN YARN

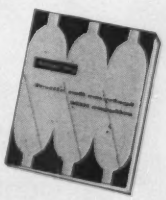
Mill men spinning synthetics or natural fibers will tell you there *is* a difference in roll covers. Some covers allow serious front-roll laps. But only one cover consistently minimizes lapping on any type of stock—the Armstrong J-490 Accotex® Cot.

There's a good reason for this. J-490 Covers actually tend to repel broken ends. Special electrolytes in this cot permanently neutralize the normal attraction between cover and fiber.

Mill reports also prove that J-490 Accotex Covers are smooth and clean running . . . and stay that way for years with a minimum of rebuffing. Test them yourself and see how well they handle any fiber. Call your Armstrong man or write us direct.

*If you have trouble with eyebrowing on your spinning frames, try the Armstrong NO-742-S Cot. This roll cover has a "constant-friction" surface that stops eyebrows from forming, even with the coarsest yarn.*

**Send for free booklet,** "Armstrong Textile Roll Coverings and Mill Supplies." Write to Armstrong Cork Company, Industrial Division, 6506 Ivy Street, Lancaster, Pa.



**Armstrong ACCOTEX COTS**

*. . . used wherever performance counts*

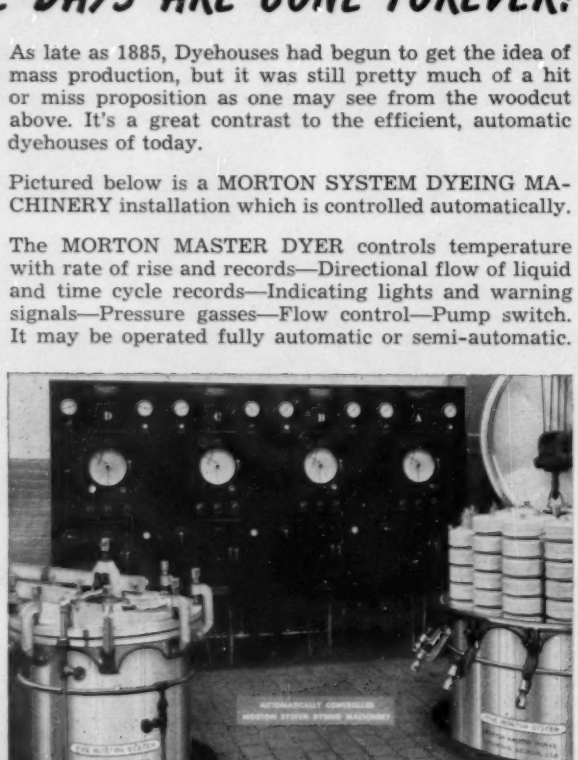
Dyeing Establishment, latter part of 19th century, Woodcut, 1885

## "THOSE DAYS ARE GONE FOREVER!"

As late as 1885, Dyehouses had begun to get the idea of mass production, but it was still pretty much of a hit or miss proposition as one may see from the woodcut above. It's a great contrast to the efficient, automatic dyehouses of today.

Pictured below is a MORTON SYSTEM DYEING MACHINERY installation which is controlled automatically.

The MORTON MASTER DYER controls temperature with rate of rise and records—Directional flow of liquid and time cycle records—Indicating lights and warning signals—Pressure gasses—Flow control—Pump switch. It may be operated fully automatic or semi-automatic.



THE MORTON SYSTEM DYEING MACHINERY

# MORTON

## MACHINE WORKS, INC.

COLUMBUS, GEORGIA U. S. A.


## Shorts and Remnants

same from Sandoz or by writing T. I. You don't even have to tear off the top of a dye vat to send in for it. Sandoz, a pioneer dyestuffs advertiser, also has a current book on Color and Chemical Analysis, listed in our April issue.

► OOPS—Sorry—In this here column last month we moved the **Pick Mfg. Co.** to Watertown, Wis. We had the state right, but Pick is still up on top of the hill in West Bend.

**Bobbin-Box Lifter**

"Please advise address of the Sunray Company as mentioned in the article 'Mechanical Bobbin-Box Lifter Eliminates Lifting Hazards' [p. 105 Feb. '55]."

C. B. BRICKER
Riegel Textile Corporation
Trion, Ga.

► Sun-Ray Company is in Spartanburg, S. C.

**Wants to Visit Case History Mill**

" . . . If it is possible, would you please inform me as to the name of this mill and its location? [Case History No. 10, Feb. '55]. . . . "

J. R. PRUITT
Greenville, S. C.

**Not All at Once**

**H. Billica,** E. I. du Pont de Nemours & Co., Inc., Kinston, N. C., writes that his issue of TEXTILE INDUSTRIES goes into a library serving over 70 chemists, engineers, and textile technologists. That could be a little crowded. Maybe they should buy 2 copies of TEXTILE INDUSTRIES.

**"Wonderful Publication"**

"Having finally gotten around to reading my issues of your wonderful publication . . . . and would appreciate your forwarding additional information on the following: . . . "

LEWIS M. ESCOTT
Pres. Nylonet Corp.
Miami, Florida

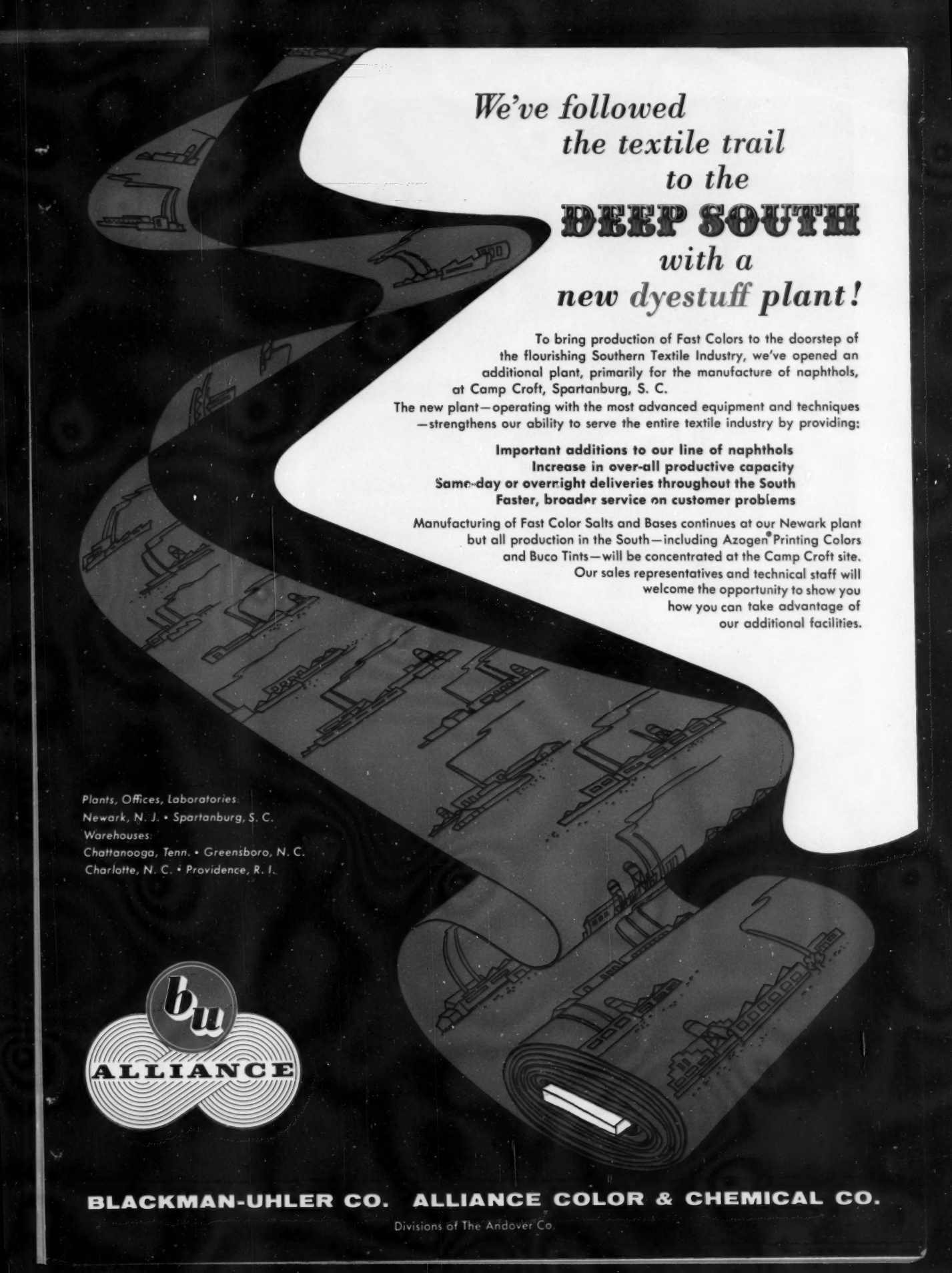
**More "Man In White Suit"**

"We would very much appreciate it if you would send us a reprint of the article 'The Man in the White Suit' [Jan. '55] . . . "

HENRY J. LINTON
Iselin-Jefferson
New York, New York

**Considering Testing Lab**

"We are considering establishing a testing laboratory in our mill and will appreciate any information you



# *We've followed the textile trail to the* DEEP SOUTH *with a new dyestuff plant!*

To bring production of Fast Colors to the doorstep of the flourishing Southern Textile Industry, we've opened an additional plant, primarily for the manufacture of naphthols, at Camp Croft, Spartanburg, S. C.

The new plant—operating with the most advanced equipment and techniques—strengthens our ability to serve the entire textile industry by providing:

**Important additions to our line of naphthols**
**Increase in over-all productive capacity**
**Same-day or overnight deliveries throughout the South**
**Faster, broader service on customer problems**

Manufacturing of Fast Color Salts and Bases continues at our Newark plant but all production in the South—including Azogen® Printing Colors and Buco Tints—will be concentrated at the Camp Croft site. Our sales representatives and technical staff will welcome the opportunity to show you how you can take advantage of our additional facilities.

*Plants, Offices, Laboratories:*
*Newark, N. J. • Spartanburg, S. C.*
*Warehouses:*
*Chattanooga, Tenn. • Greensboro, N. C.*
*Charlotte, N. C. • Providence, R. I.*

bu ALLIANCE

**BLACKMAN-UHLER CO. ALLIANCE COLOR & CHEMICAL CO.**

Divisions of The Andover Co.

# Coats and Clark Toccoa Finishing Plant Completely Air Conditioned by Bahnson

The gassing department is kept at 80° F. and 45% relative humidity at all times. Gasser exhaust hoods are connected to axial-flow fans which discharge air above the roof.

The complex air conditioning requirements of this newest yarn and thread finishing plant were solved by a completely integrated system which serves every room, providing highest efficiency with maximum employee comfort.

Air conditioning equipment, as well as special exhaust systems and hoods, were made and installed by Bahnson to specifications by P. L. Davidson, Consulting Engineer, Greensboro, N. C. Evaporative cooling is utilized in the wet-finishing department and warehouse, full refrigerative cooling elsewhere, and proper humidity control throughout.

Whatever *your* type of textile operation—whatever your particular air conditioning or humidity problem—Bahnson has the engineering, production, installation and servicing facilities to assure your satisfaction. For more information, write today for Catalog 103.

* **91 OF THE TOP 100**

Of the 100 top textile manufacturing firms in the nation, 91 are users of Bahnson equipment ... high testimony to Bahnson engineering skill.

*COATS & CLARK, INC.—One of the top 100

Aerial view of new Coats & Clark plant at Toccoa, Georgia—378,000 sq. ft. of floor space, comfortably air conditioned the year around.

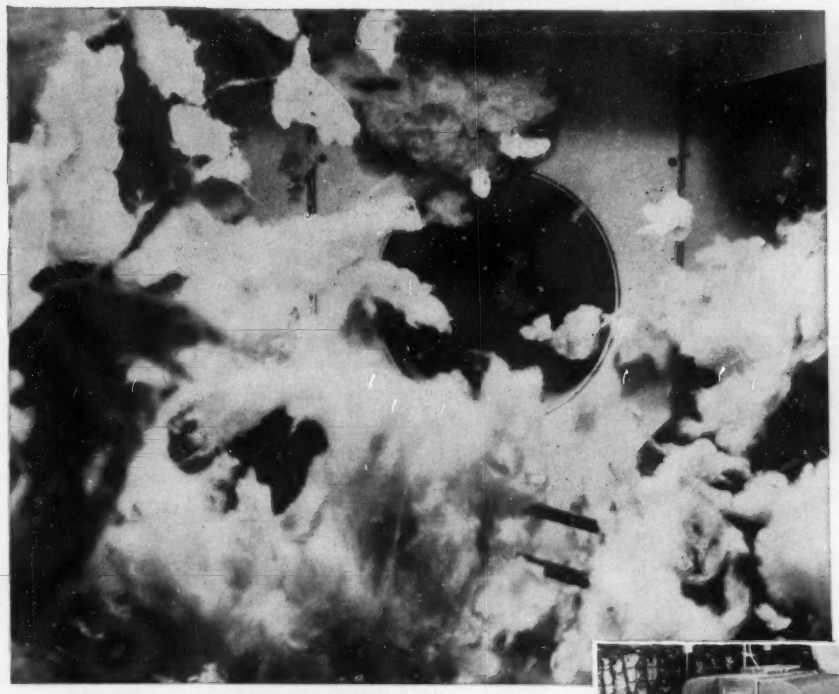
Basement conditioning ducts can be seen at left, and portions of the pressure-extractor exhaust systems are shown at right.

Bahnson COMPANY
WINSTON SALEM, N. C.

AIR CONDITIONING • HUMIDIFICATION • CLEANING

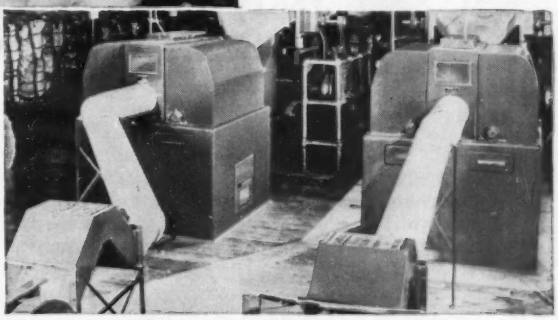
CALLED "THE MOST IMPORTANT DEVELOPMENT IN OPENING AND CLEANING IN TWENTY YEARS"

# The new WHITIN AXI-FEED and AXI-FLO



High speed photograph of interior of Whitin AXI-FLO showing cotton in process of being cleaned, further opened and blended. Note small size of tufts passing out through delivery pipe at rear.

## are fast making conventional opening and cleaning methods obsolete!



Mill installation of two AXI-FLO units. Each is fed by a line of blending feeders.

Providing a new technique in opening and cleaning, installations of the Whitin AXI-FEED attachment for blending feeders and the Whitin AXI-FLO are now setting performance standards higher than were ever possible with conventional equipment. In addition to Opening Room benefits, many other advantages are being realized in subsequent processes because of the improved quality of the cleaned stock.

- **Better Opening**
  **Stock opened into very small tufts**
- **Increased Cleaning**
  **Dirt removed equivalent to 2 or more conventional machines. Production up to 1200 lbs./hr.**
- **Additional Blending**
  **Axi-Flo blends while cleaning**
- **Yarn and cloth quality usually improved**
  **Preservation of long fibers beneficial**
  **Neps greatly reduced**
- **Costs Sharply Reduced**
  **Present power costs reduced by 60-75%**
  **Lower maintenance costs**
  **Low investment required**

*Send for full details today!*

Whitin

**MACHINE WORKS**

WHITINSVILLE, MASSACHUSETTS

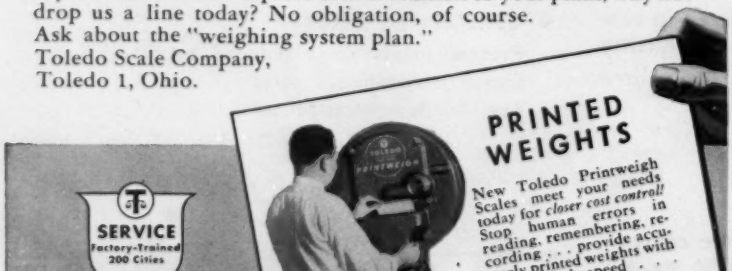
CHARLOTTE, N. C. • ATLANTA, GA.
SPARTANBURG, S. C. • DEXTER, ME.

# DO YOUR SCALES ADD UP TO A Weighing System?

## TODAY IT PAYS TO TAKE A PLANT-WIDE LOOK AT WEIGHING

Do you have the *right* scales in the *right* places? A modern *Weighing System* works hand in hand with your accounting *system* and makes a *big* difference in helping you win your war on costs. Weight records that originate at scales flow to the accounting areas and directly affect costs, inventories and customer billings. Weighing errors cannot be corrected later—weights must be right the *first* time. That's why it's more than ever important to think of weighing not in terms of isolated scales, but as a vital part of your overall cost-control system.

If you would like to explore this in relation to your plant, why not drop us a line today? No obligation, of course.
Ask about the "weighing system plan."
Toledo Scale Company,
Toledo 1, Ohio.


PRINTED WEIGHTS
New Toledo Printweigh Scales meet your needs today for *closer cost control!* Stop human errors in reading, remembering, recording . . . provide accurately printed weights with split-second speed . . . *accurately* recorded!
SERVICE
Factory-Trained
200 Cities
TOLEDO®
HEADQUARTERS FOR SCALES


# Shorts and Remnants

may be able to furnish on the following testing instruments. . . . "

RICHARD L. HUME
Asst. Supt. Malvern Cotton Mills
Malvern, Arkansas

**Fifty Cents an Issue?**

"May I obtain a copy of the March 1955 issue . . . I am enclosing 50¢ in postage . . . "

HELEN F. DAVIS
A & M Karagheusian, Inc.
New York, New York

► Cheap at the price but 10¢ stamps are hard to lick.

**Wants "The Tariffs"**

"We would like to receive five (5) copies of . . . 'The Tariffs' [April '55]."

S. RUFFMAN
Plant Mgr.
Double Woven Corp. of America
Dunmore, Pennsylvania

**Suggestion Boxes**

"Sometime within the past three years there was published . . . an excellent article dealing with 'Suggestion Boxes' . . . . If you did publish it, possibly you could let us have a reprint. . . . "

EVANS R. DAVIS
Code Felt and Knitting Co. Ltd.
Perth, Ont. Canada

► It was eight years ago [March '47] and entitled "Proper Management of Suggestion System Pays."

**Cotton Properties for S. A.**

"We have been requested by one of our customers in Brazil (Sao Paulo Alpargates, S. A.) to secure a reprint of 'What Cotton Fiber Properties Affect Yarn Quality?' [Dec. '54]. . . "

IRVING SMITH
H. A. Astleet & Co., Inc.
New York, N. Y.

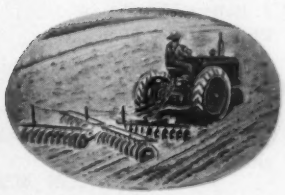
**English and Germans Superior**

" . . . Your manual is a reprint of several articles, loosely connected by the group of 'finishing' as a word, but these articles are so haphazardly collected and so much on the level of a foreman, that the word MANUAL is in my humble opinion not justified. You teach tricks and you cite experiences, but I feel that a MANUAL must do more than just this . . . The English and the Germans are much superior."

WILLIAM R. BATORFFY, M. Sc.
Sao Paulo, Brazil

► Superior, without a doubt, so why do they come over here to visit

# Groundwork for a Fine Finish



ANYONE CAN PLANT A SEED—but then what?

. . . for it takes more than good planning to "finish" a field of corn . . . to bring it to ripe perfection. It takes skill and preparation. Takes plowing, harrowing, fertilizing, cultivating . . . and good weather.

And it takes more than the same good planning when you have a difficult lot to dye. But with good planning, skill, and *all-purpose Diastafor* de-sizing agent to do the groundwork, your "harvest" will be a trouble-free, blemish-free finish every time!

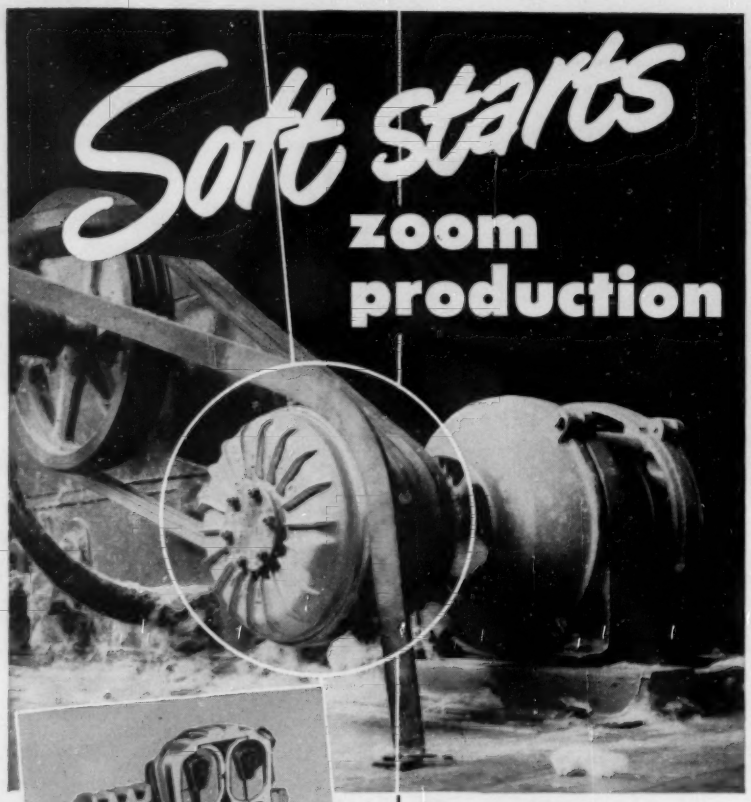
For Diastafor de-sizing agent, with its unusually wide working range of temperatures and pH, is sure to satisfy your every enzyme de-sizing need. The *"spadework" is done* when you use it, no matter under what conditions you may be working—with cottons, rayons or mixed goods, or with variables in water or sizing formulas.

For easy, fast, economical de-sizing in your own mill, one of Diastafor's three types—L, $L_e$ or D—is sure to meet your requirements. Remember, Diastafor first "broke ground" more than 44 years ago—and its fine reputation has been growing ever since.

If you wish further information, please write. Remember . . . our sales and technical staffs are here to serve you.
Standard Brands Incorporated, *Diastafor Department*,
595 Madison Avenue, New York 22, N. Y.

**DIASTAFOR**

A TRADE MARK OF STANDARD BRANDS INCORPORATED




Cutaway of HYDRO-SHEAVE® Drive, showing Twin Disc Twin-Circuit design. Write for HYDRO-SHEAVE Bulletin 145-B.

"The HYDRO-SHEAVE drive provides a *very smooth, soft start* and minimizes the number of 'ends-down,' thereby saving operator downtime and upping production."

So reported a leading textile mill where sudden jerky starts on the Roving Frames had caused profit-stealing production loss through yarn breakage.

Mill after mill has found the right answer to shock-load starting troubles in the HYDRO-SHEAVE drive . . . and mill after mill has solved winding tension difficulties by installing that other famous Twin Disc Hydraulic Drive—the HYDRO-WYND. Twin results are improved quality *and* increased production.

Twin Disc's Hydraulic Drives are solving starting and winding problems on tenter frames, roving frames, reversing aprons, slashers, padders, re-winds, batchers, dye-rigs, garnett machines, calendars, stokers and conveyors.

Twin Disc HYDRO-SHEAVES help little motors do bigger jobs . . . improve the electric power factor for all motors developing from ¾ to 50 hp.

TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

**TWIN DISC**
***Fluid Couplings***

For information on Twin Disc HYDRO-WYND® Drive, request Bulletin 163-A. For information on complete Twin Disc line of Fluid Couplings—sizes 7.4S to 27, for ¾ to 850 hp—write for Bulletin 144-D.

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

Branches or Sales Engineering Offices: Cleveland • Dallas • Detroit • Los Angeles • Newark • New Orleans • Seattle • Tulsa


## Shorts and Remnants

our mills? Mr. Batorffy, the nicest thing you can say about our manual or anything in TEXTILE INDUSTRIES is that it is on the level of a foreman. That's us—for 57 years—practical, not theoretical.

**Wants Looper Guards**

" . . . Under 'Knitter Hints #40', [Mar. '55] there was pictured a plastic guard for looping machines. Could you please tell us who handles this item. . . . "

HENRY SOLOMON
The Lion Knitting Mills Co.
Cleveland, Ohio

"Will you please tell us where we may buy the looper guard referred to as 'Knitter Hints No. 40' [Mar. '55] . . . "

PETE CONNER
Cape Hosiery, Inc.
Jackson, Missouri.

► These plastic guards, made in Chattanooga, Tenn., are now out of stock. If our knitting friends want these guards, write Charles O. Simms, Beautiful Bryans, Inc., Chattanooga, Tenn.

**Leon Seidel, Take a Bow!**

" . . . The story [3-in-1 Finish (April '55)] is excellently told in a concise and quick manner. I want to compliment your associate editor, Leon Seidel, on the fine way in which this story was handled. . . . "

J. ROBERT MENDTE
J. Robert Mendte, Inc.
Philadelphia, Pa.

" . . . We wish to take this opportunity to express to you our appreciation for the talent and conscientiousness which your Mr. Seidel has shown . . . "

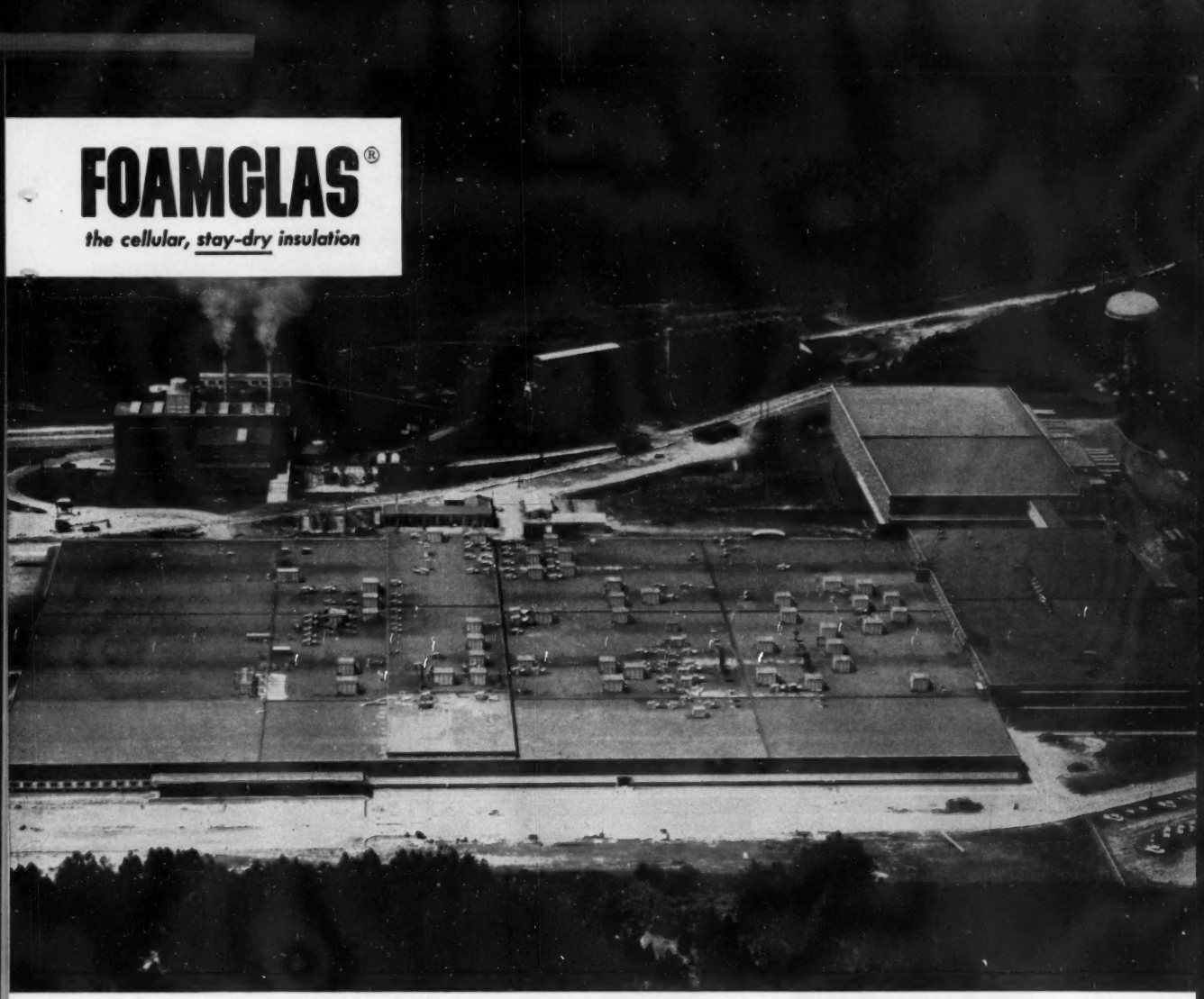
MORTON MILMAN
Dorset Knitwear, Ltd.
New York, New York

► The article on "Practical Piece Goods Mercerizing" by Sidney M. Edelstein of Dexter Chemical Corporation appearing in our March '55 issue continues to get inquiries such as **W. W. Arnold**, sales manager Wiesner-Rapp Co., Inc., Buffalo, N. Y.; United Merchants Laboratories, Inc., New York, N. Y. Reprints available from Dexter.

► "Fibers for the Future" from January '55 issue is still pulling in requests for reprints including **John MacMillan**, Rohm & Haas Company, Philadelphia, Pa.; **Carl Rosenthal**,

**FOAMGLAS®**

***the cellular, stay-dry insulation***



Airview of Grace Bleachery, the world's largest . . . recently enlarged by The Springs Cotton Mills at Grace, S.C. *Engineers and Architects:* Robert & Co. Associates, Inc., Atlanta, Ga.; *Roofers:* Ingold Company, Inc., Hickory, N.C. and Arvett & Ledbetter Roofing and Heating Co., Charlotte, N.C.

## On Springs Cotton Mills' 16-acre bleachery roof FOAMGLAS insulates effectively because it stays dry

On this 16-acre roof of their Grace Bleachery, The Springs Cotton Mills has found that FOAMGLAS insulates effectively because it can't absorb moisture and lose insulating efficiency.

Installed in 1947 on the original bleachery roof, FOAMGLAS has effectively kept down condensation on the roof slab and conserved heat in the winter. Seven years later it was picked again to insulate the roof of a major addition to this bleachery, the largest in the world.

This unique cellular glass insulation has been used extensively by the Springs Mills in other ways . . . on 350° steam lines . . . in cold storage spaces . . . and on 20 additional acres of mill roofs including one in Lancaster, S.C. covering more looms (7,500) than any other roof in the world.

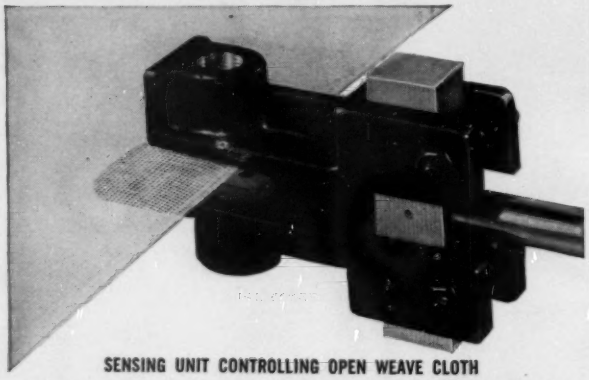
It will pay *you* to get the full story on the use of FOAMGLAS for buildings, cold storage space, piping, or tanks and equipment. Please write today for a sample and literature indicating your specific interest.

**Pittsburgh Corning Corporation**

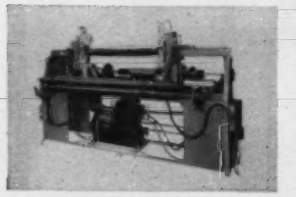
Dept. AG-65, One Gateway Center
Pittsburgh 22, Pennsylvania
In Canada: 57 Bloor St. W., Toronto, Ontario

# ASKANIA
# CLOTH GUIDE CONTROL

## *Nothing touches the cloth but a breath of air*



SENSING UNIT CONTROLLING OPEN WEAVE CLOTH



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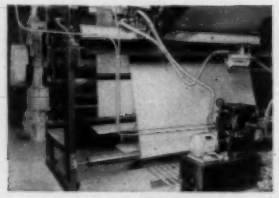
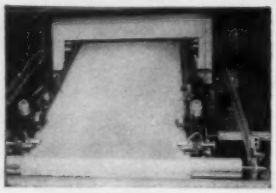
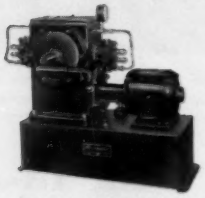


PIN TYPE TENTER



CLIP TYPE TENTER



CLOTH GUIDE REGULATOR

The Askania Cloth Guide Control has been tested on hundreds of applications—it's extremely fast, accurate and dependable. It guides fast moving webs with a breath of air. It's an ideal unit to solve your cloth guiding problems on Tenter Frames, Tubing Machines, Folding Machines, Examining Machines, Printing Machines, Slitting Machines, Labeling Machines or Rewinding Machines. Askania Cloth Guide Controls are establishing new standards in the finishing departments of hundreds of Textile Mills. If you have a cloth guiding problem—ask for Bulletin A-161, or call Askania engineers for full details.

**ASKANIA REGULATOR COMPANY**
260 E. Ontario Street, Chicago, Illinois
*Subsidiary of General Precision Equipment Corp.*


## Shorts and Remnants

American Rieter Co., Inc., Arlington, N. J.; **R. Knox Clement,** Whitin Machine Works, Charlotte, N. C.; **A. R. Nityanad,** Madurai Mills, Madurai, South India; **R. H. Freeman,** United Merchants Laboratories, Inc., New York, N. Y.

**Technical Book on Knitting**

"We are looking for a technical book or a handbook on knitting sweaters, hosiery, jersey, interlock and also on the finishing of all knitted goods. . . . "

LIONEL N. CORRIVEAU
Lafayette Worsted Spinning Co., Inc.
Woonsocket, R. I.

► How about "Circular Knitting Practices" reprinted from TI?

**Annual Report**

Once in a while S & R gets an annual report worth mentioning. This one comes from a pioneer in textile packaging, Gaylord Container Corp., St. Louis, Mo. If you want to see how they make corrugated boxes, write and ask for a copy.

**Annual Summary**

Speaking of annual reports and writing for a copy, if you didn't get an Annual Summary of new mills, additions, and changeovers for 1954 as compiled from *Textile Industries News,* S & R will send one on request. Maybe 1954 wasn't a top year but there were still lots of changes and new plants—a live and active market for advertisers.

**Pleased with Article**

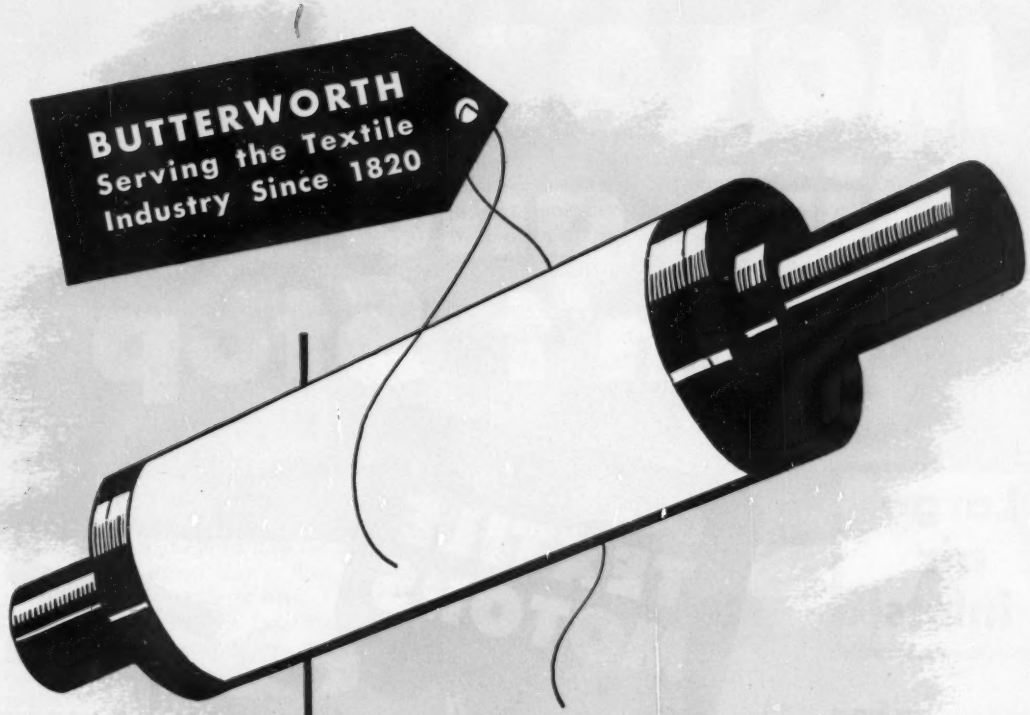
" . . . We are pleased with its presentation [April '55 p. 112] and believe that it is quite comprehensive. Thank you for thinking of us and we hope that we may be the source of future stories in your excellent magazine. . . . "

JOHN M. EXTON
Bachman Uxbridge Worsted Corp.
New York, New York

► Thank you Mr. Exton and Bachmann Uxbridge. We do believe in interchange. Sometimes we run into one like the mill who told our editor they couldn't give out any information on their truck operation. Must have a real secret there—like an atomic tire changer or gear shift.

**Historical Note**

Davy Crockett did *not* patch up the crack in the Liberty Bell. The crack is still there. S & R saw it with his own eyes in Philadelphia, Pa.




## New Process . . New Machining . . New Tooling
## *for the ALL-NEW Butterworth Roll*

Butterworth's new Dura-Smooth Roll brings new economies to the finishing room . . . new standards of quality control. Manufacturing economies at the modern Butterworth plant, plus new production processes developed and used exclusively by Butterworth, assure top quality rolls at a competitive price.

At Butterworth, you get fast, dependable service . . . without sacrifice of Butterworth quality. New manufacturing equipment, manned by skilled craftsmen on round-the-clock shifts, assures fast production of quality-controlled rolls, whether new or refilled. And your Butterworth Dura-Smooth Rolls will never loosen or slip — they're locked on a forged steel shaft under controlled pressure.

Check long service life against low initial cost, and you'll see why leading mills have standardized on Butterworth Dura-Smooth Rolls for every need, whether for plain rolling finishes or for chasing, friction or engraving. Call or write today for a quotation on your requirements.

Butterworth Dura-Smooth Rolls are furnished new or refilled for every need. Cotton Rolls . . . special Cotton Rolls for heavy-duty friction work . . . special combination Rolls for Chasing Calenders . . . standard combination Rolls for plain calendering . . . special husk mix Rolls for water mangles . . . wool felt Rolls for silk and embossing and schreiner work . . . special cotton and wool Rolls for schreiner work. Ready for delivery on the date you specify.

## H. W. BUTTERWORTH & SONS CO.

**Bethayres, Pennsylvania**

**1211 Johnston Bldg., Charlotte, N. C.** **187 Westminster St., Providence, R. I.**

*Representatives in Principal Cities of the World*

Machines for Bleaching, Boiling-Out, Dyeing, Mercerizing, Finishing, Embossing Pot Spinning Machines for Synthetic Fibers : : Calender Rolls : : Tenter Chains

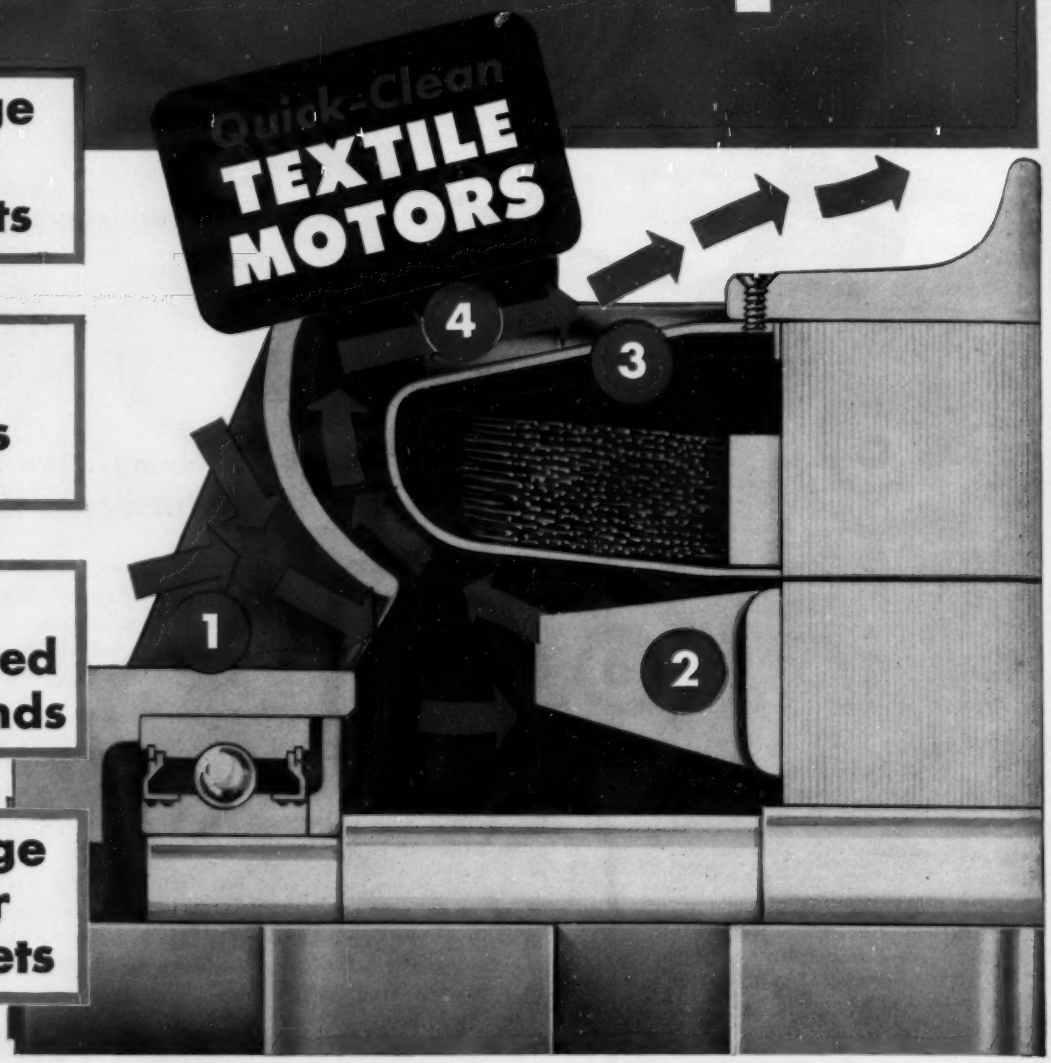
# MOTORS that Dirt and Lint Can't Stop

1. Large air inlets

2. Big fans

3. Covered coil ends

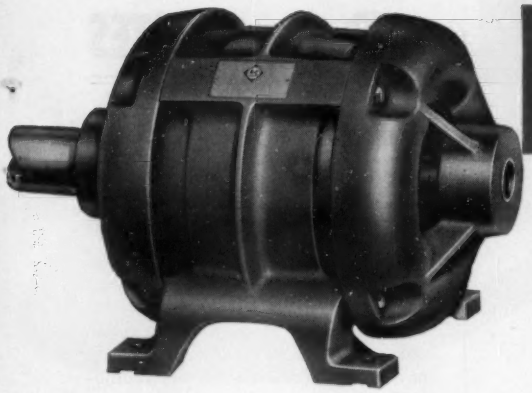
4. Large air outlets




**GET COMPLETE INFORMATION:** Call your nearby Allis-Chalmers District Office or distributor, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

*Texrope and Quick-Clean are Allis-Chalmers trademarks.*

**ALLIS-**



## Spinning

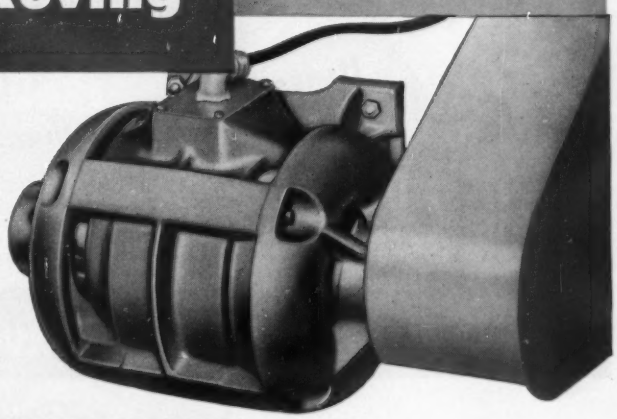
Two important features make this *Quick-Clean* motor your best buy for spinning frame duty. First, wide open design solves problems of clogging and overheating created by lint-laden atmospheres. Powerful fans sweep lint and dirt through wide open air passages and right out of the motor. Air passages are large, smooth, unobstructed.

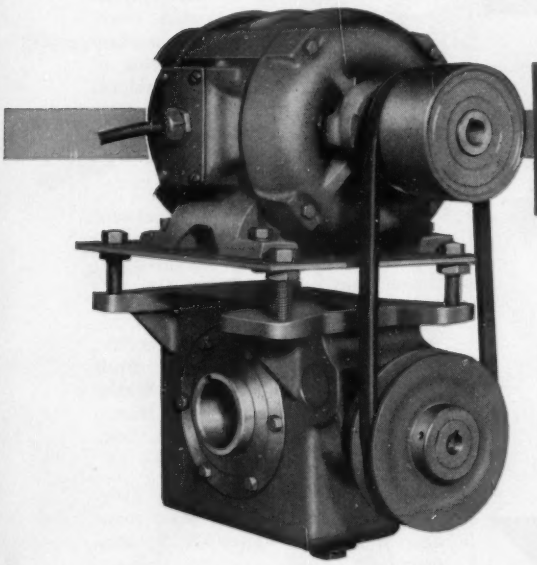
Second, pre-lubricated and sealed double-width, single-row ball bearings are used. They will operate for long periods without attention — yet can be cleaned and repacked when motor is dismantled. Will not drip grease that can damage product.

## Roving

The same wide open, self-cleaning *Quick-Clean* design is used in this motor for roving frame applications. Special slow, smooth acceleration characteristics are built into the motor to provide slow starts, fine jogging — produce uniform roving.

No special resistors, no acceleration-reducing clutches, no special motor control are required with this motor. Acceleration is almost three times as long as a standard motor. Special conduit box connections permit relatively high torque when required, such as during "break-in" period of the frame.





## Carding

Non-clogging, *Quick-Clean* motor is combined with a *Texrope* drive, mercury clutch and a highly efficient gear reducer to make a compact, reasonably priced power package for cards. These individual card drives solve problems of lighting, cleanliness and safety created by overhead shafting and belting. In addition, duct arrangements for air conditioning are simplified.

Unit requires practically same floor space as tight-and-loose pulley drive. It is mounted on card shaft — independent of card arch — with torque arm to keep gear box from rotating.

A-4600

# CHALMERS

A-C ALLIS-CHALMERS

# Name Brand Products

**ride smoothly on**

# ALVEY engineered conveyors

The well-known trademarks above belong to a few of the many important textile producers who place their confidence in Alvey Engineered Conveyors.

These mills know how cartons, rolls, bales, folded goods, doff boxes, bobbins and many other textile units are successfully conveyed by Alvey equipment.

Your letter will bring an Alvey engineer to discuss your conveyor problems with you.

Every time you MANhandle a package, you add to the cost and nothing to the value; therefore, put your packages on Alvey Conveyors that are engineered to fit your individual requirements.

# ALVEY

ALVEY CONVEYOR MANUFACTURING COMPANY

9306 Olive Street Road, St. Louis 24, Missouri

*Branch Offices in Principal Cities*

158


# Personal NOTES

*ABOUT MEN YOU KNOW*

**David Arthur** is new general manager of manufacturing of the Craft Fabric Division of Pacific Mills, with headquarters in Halifax, Va. He was southern manager of manufacturing for the division prior to this promotion.

Adams-Millis Corp., High Point, N. C., has created two new vice-presidential posts—**Harry G. Bell** is vice-president in charge of manufacturing and **Charles P. Wirsching** vice-president in charge of sales. New board members are: **Nathan M. Ayers** of Triangle Hosiery Co.; **Bland W. Worley** of Wachovia Bank & Trust Co.; and **H. A. Millis, Jr.**, of Grayson-Millis Hosiery Mills, Inc.

New card room overseer at the Arkray plant of Textiles, Inc., Gastonia, N. C., is **John W. Bolt**, who was formerly associated with Burlington Industries.

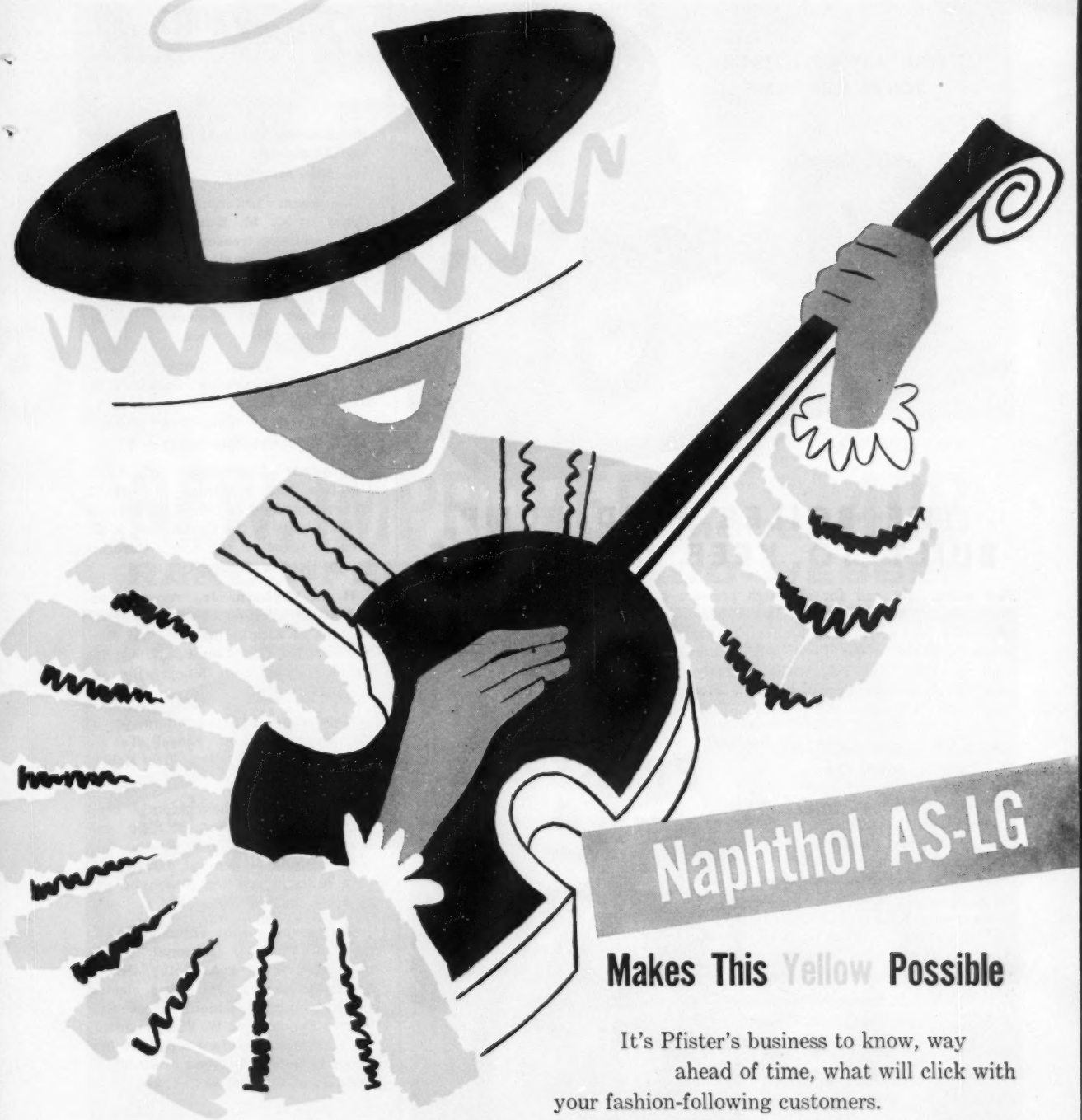
The New York State Textile Overseers Association recently elected **George H. Boudreau** of Stuyvesant Falls its president for the current year. Other officers elected were: **Richard Lewis** of Amsterdam, first vice-president; **Lawrence Melius** of Stottville, second vice-president; **Arthur Mullen** of Albany, third vice-president; **Frank Yerick** of Hudson, treasurer; and **Theodore N. Aldrich**, secretary.

Recently promoted to assistant superintendent of rayon finishing at the Ware Shoals (S. C.) plant of Riegel Textile Corp., Trion, Ga., was **Wendell W. Bowen.**

Wyandotte Worsted Co., Waterville, Me., has named **Ernest C. Bratt** superintendent, succeeding **Walter Jackson.** Mr. Bratt came from Barrymore Cloth, Ltd., in Toronto, Ont., Canada.

**William H. Brown**, formerly overseer of finishing, is now plant manager of Pleasant Valley (N. Y.) Finishing Co.

New officers of the Corduroy Council of America, New York, N. Y., are: **Harold S. Bullard** of Greenwood (S. C.) Mills, Inc., chairman of the permanent committee; **Saul Eisenberg** of



# Naphthol AS-LG

## Makes This Yellow Possible

It's Pfister's business to know, way ahead of time, what will click with your fashion-following customers.

Yellow produced with Pfister's Naphthol AS-LG is the last word in light-fast, wash-fast brilliance—the last word in demand-creating color for fast moving merchandise.

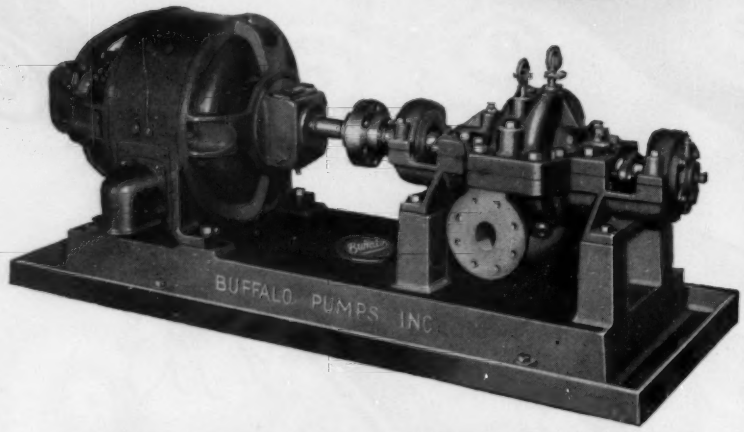
Get sample and formula from Pfister.

Pfister Chemical Works INC.

Ridgefield, New Jersey

TYPE "RR" MULTISTAGE
BOILER FEED PUMP

"Buffalo" PUMPS

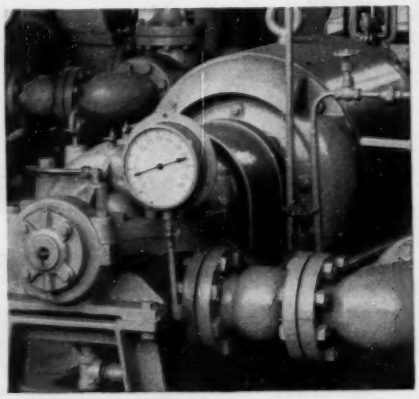



# THE BOILER FEED PUMP BUILT TO KEEP DELIVERING

Few pump jobs call for the high pressure operation required in boiler feed. Thus, pumps on this important job must have both efficiency and terrific endurance. "Buffalo" offers you both, at moderate price, in the Type "RR" Pump. Delivering at heads as high as 1500′ (500 psi), these ruggedly built pumps have been proving themselves dependable and economical in hundreds of boiler rooms for many, many years.

## UNDER PRESSURE

Why not look into the "Buffalo" Q Factor* construction that makes these two and four-stage pumps your best buy? You'll find rugged strength built into every part — oversize ball bearings, shafts and efficient impellers—heavy casings with free-flow water passages—rigid, substantial pump stands. WRITE FOR BULLETIN 980-C TODAY, and check the features that will mean lower cost per gallon for you, year after year!



*The "Q" Factor—the built-in Quality which provides trouble-free satisfaction and long life.*

## BUFFALO PUMPS, Inc.

175 MORTIMER ST. BUFFALO, N. Y.

"Buffalo" PUMPS

*Subsidiary of Buffalo Forge Company*
Canada Pumps, Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

## Personal NOTES ABOUT MEN YOU KNOW

Brookhaven Textiles, Inc., treasurer; and **Al Beiman** of A. D. Juilliard and Co., Inc., secretary.

A recent testimonial dinner in honor of **C. M. Burgess,** secretary and assistant treasurer of Laurens (S. C.) Mills, signaled his retirement after 48 years of service at the plant. A gold wrist watch commemorating his service was presented to Mr. Burgess on this occasion.

**John F. Byrne,** formerly comptroller and a director of Guerin Mills, Inc., Woonsocket, R. I., is now comptroller of Princeton Worsted Mills, Inc., Trenton, N. J.

Governor Timmerman of South Carolina has appointed **Robert C. Henry,** manager of four J. P. Stevens & Co. plants in the Greenville, S. C., area, to serve on the South Carolina Public Service Authority.

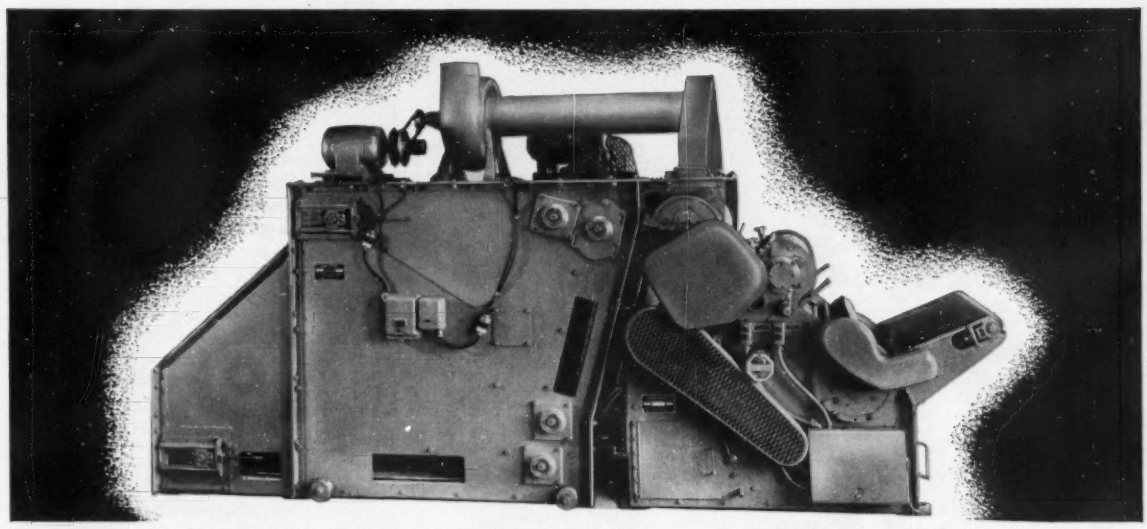
**H. B. Clyburn, Jr.,** recently accepted the position as night superintendent of Linn Mills Co., and Corriher Mills Co., Landis, N. C. He formerly was with Mooresville (N. C.) Mills.

New assistant superintendent of the Grey Mill at Riegel Textile Corp.'s Trion, Ga., division is **Robert C. Coleman.**

**J. L. Channell** has recently been elected vice-president of Opp and Micolas Cotton Mills, Opp, Ala., and will continue as general manager of both mills, a position which he has held for the past 20 years.

During the recent annual convention of Phi Psi national textile fraternity, **Willard A. Colby, Jr.,** of Emery Industries, Inc., was elected grand council president, succeeding Walter Fancourt of W. F. Fancourt & Co. New vice-president replacing Mr. Colby is **George F. Long** of Harchem Division of Wallace & Tiernan, Inc.

This year's achievement awards of the Textile Veterans Association will go to **Donald Comer, Sr.,** board chairman of Avondale Mills, Sylacauga, Ala.; **Robert L. Huffines, Jr.,** president of Amerotron Corp.; **Samuel D. Leidesdorf,** senior partner S. D. Leidesdorf & Co.; and **Miss Hilda Wiedenfeld,** executive secretary of Textile Distributors Institute. Presented on behalf of the entire textile industry, the awards are given for



FOUR YEARS OF ACTUAL MILL PERFORMANCE DEVELOPED THE

# NEW, IMPROVED MODEL 40B

## RANDO-FEEDER

NEW — **ENLARGED HOPPER** . . . full 50-cubic foot capacity.

NEW — **FLOOR APRON** gives even pressure of fiber on elevating apron. Speed readily adjustable.

NEW — **STRIPPER APRON** returns excess fibers to rear of hopper. No Feeler Plate or Start-Stop actions.

NEW — **ROTARY CONDENSER SCREEN BOX.**

IMPROVED — **SELECTIVE OUTPUT CONTROL** . . . unaffected by wide range in hopper level.

NEW USES — **BLENDING AND BLENDING LINES.**

## RANDO-WEBBER

COMPLETELY NEW — **DESIGN AND CONSTRUCTION** . . . same principles and functions.

IMPROVED — **PERFORMANCE** . . . product and output efficiency.

IMPROVED — **MAINTENANCE** . . . heavier motors and drives—readily accessible.

NEW — **DOUBLE DRIVE ROTARY CONDENSER** . . . interchangeable with Feeder Condenser . . . minimum spares needed.

NEW — **AIR CHAMBER** design for improved web uniformity. Large accessible clean-outs.

Rando-Feeders and Rando-Webbers have produced thousands of yards of random webs in around-the-clock production. Four years of proven performance. The same basic design today but new features . . . new versatility . . . improved performance. Available in 3 sizes: 40", 60" and 84". Inquiries are invited. Bulletin available.

TEXTILE DIVISION

**CURLATOR**

CORPORATION

EAST ROCHESTER, NEW YORK

**"They're wasting money—a Cyclone Fence and a watchman!"**

YOUR LOCAL BURGLAR can vouch for the fact that Cyclone Fence—*all by itself*—will keep intruders away from your property. That's just one reason why Cyclone is the most widely used property protection fence in the entire world.

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Cyclone engineers will be glad to help you solve your fencing problems. Meanwhile, *send for the free booklet.*

**CYCLONE FENCE DEPT., AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION**

WAUKEGAN, ILLINOIS · SALES OFFICES COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

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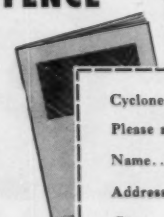
Our informative booklet is filled with photographs, drawings and graphic descriptions of different styles of fence and gates for the protection of property. Whether you're interested in a few feet of fence or miles of it, you'll find this booklet worth your while. Send for your copy. It's free.



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UNITED STATES STEEL


## Personal NOTES ABOUT MEN YOU KNOW

"notable civic and philanthropic endeavors which reflect great credit to the honoree and the textile industry . . . and serving as an inspiration to those veterans of World War II now associated with the industry."

New chairman of the board of Colonial Piece Dye Works, No. Bergen, N. J., is **Mrs. Emma Loehwing Conlon,** formerly secretary-treasurer of Puritan Piece Dye Works.

**Frank A. Cooper** has recently become technical manager of Paragon Knitting Mills, Philadelphia, Pa. Prior to accepting this position he was with Wilmington (Del.) Hosiery Mills.

President and director of Harriet and Henderson (N. C.) Cotton Mills, **J. Allison Cooper,** has retired because of health reasons. He is succeeded by **John D. Cooper, Jr.,** who was formerly vice-president and general manager of the company. **M. Y. Cooper** was appointed vice-president in addition to his duty as treasurer.

**Wade Costello,** formerly with the Wood Mill of American Woolen Co. in Lawrence, Mass., is now overseer of finishing of the second shift at the Bell Co., Worcester, Mass.

Hollywood Knitting Mills, Los Angeles, Calif., has elected **Ted Cowen** president to succeed **John K. Asder** who is retiring. Former secretary-treasurer, **Kay Karahadian,** has been named chairman of the board. New production manager is **Joseph J. Stein.**

**Earle R. Stall, Jr.,** is now assistant to the plant manager of Florence Division of Cone Mills Corp. in Greenville, S. C., having been formerly associated with J. P. Stevens & Co., Inc., as superintendent of preparation in the Dunean Mills Division.

**James R. Copland, Jr.,** has been elevated to the position of president and treasurer of Copland Fabrics, Inc., and Copland Fowler Industries, Burlington, N. C., succeeding his father, who died recently.

Newly elected vice-president of Burlington Mills, man-made fiber fabrication member of Burlington Industries, is **James L. Eskridge** who has served since 1946 in an executive capacity with Burlington.

**Leonard K. Fitzgerald** has joined the executive staff of Burlington In-

Gulftex Oil is applied to the needles of the full-fashioned hosiery knitting machines at the Virginia Maid Mill with a plastic squeeze bottle.

# "We reduced needle breakage with GULFTEX OIL"

**says Mr. Earl S. Gress, Superintendent,**
**Virginia Maid Hosiery Mill, Inc., Pulaski, Va.**

"During the two years we have been using Gulftex Oil in our knitting machines we have noticed that needle breakage is down considerably, and needles stay clean—free from gum deposits and rust," says Mr. Gress. "Needless to say, we have increased output and reduced maintenance costs."

In addition to the many fine qualities that Mr. Gress has found to be so important, Gulftex Oil has superior non-staining characteristics which make it a valuable lubricant for any application where the staining of fabrics is a problem.

So if you feel that your needle lubricant is not doing the best possible job, call in a Gulf Sales Engineer and have him demonstrate the advantages of Gulftex Oil in your mill. You can contact him today at your nearest Gulf office.

**Gulf Oil Corporation · Gulf Refining Company**
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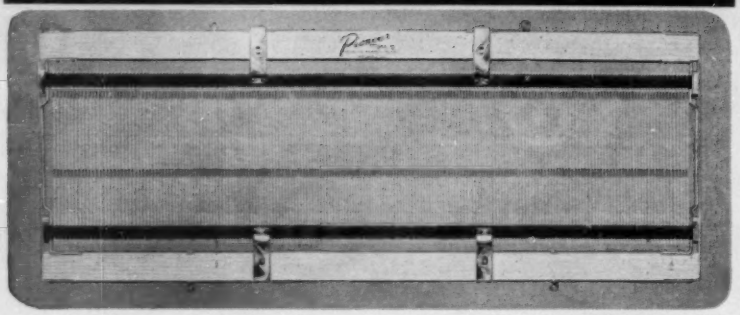
THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

# PIONEER'S DRAW-RITE FRAME

IT'S NEW!



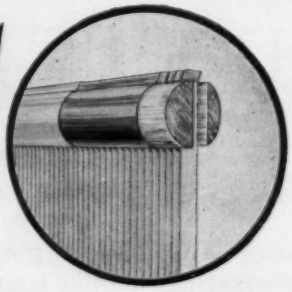
PAT. APPLIED FOR

The Pioneer Draw-Rite Frame fulfills all the requirements of the new-type drawing-in machine. Features include an end piece which enables heddles to be slipped on and off easily; heddle bars which are riveted to rod supports; and a complete adjustment on each support.

Draw-Rite Frames are available with both single and double bars. Double bars can also be drawn on drawing-in machine. Draw-Rite Heddles are available for all type frames.

# PIONEER'S NU REED

**With Patented Rib Construction**



The 10% to 15% extra weaving space afforded by NU REED has made this the Reed that mills have sought for many years. Added strength is gained by using wider wire, making a more resilient, durable reed. No loom realignment is necessary and NU REED is interchangeable with standard reeds in use today.

**INVESTIGATE THESE FAMOUS MILL-TESTED PRODUCTS:**

**FLAT STEEL HEDDLES**
**REPAIR HEDDLES**
**FRAMES**
**ACCESSORIES**
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**DROPWIRES**

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American Supply Co.
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Tel. PA. 3-9407

Odell Mill Supply Co.
Greensboro, N. C.
Tel. LD. 965

Greenville Textile Supply Co.
Greenville, S. C.
Tel. LD. 48


## Personal NOTES ABOUT MEN YOU KNOW

dustries, Greensboro, N. C., after resigning as general superintendent of Dan River Mills, Inc., Danville, Va. Filling his position at Dan River is **Roy M. Stephens,** formerly superintendent of manufacturing in the grey goods mills.

**Morris M. Bryan, Jr.,** president of the Jefferson (Ga.) Mills, Inc., was elected president of Cotton Manufac-

**Mr. Bryan**

turers Association of Georgia at their annual meeting held recently at Boca Raton, Fla., succeeding **George Glenn, Jr.,** president of Exposition Cotton Mills Co., Atlanta, Ga.

New officers of the Eastern Carolina Division of the Southern Textile Association are: chairman, **E. H. Fuller,** Roanoke Mills No. 2, Roanoke Rapids, N. C.; vice-chairman, **J. K. Bruton,** Erwin (N. C.) Mills; secretary, **J. B. Hutchinson,** Patterson Mills Co., Roanoke Rapids, N. C. Elected to serve on the board of governors of the Association were: **J. C. Farmer** of Henderson (N. C.) Cotton Mills; **W. A. Rinehart** of Golden Belt Mfg. Co., Durham, N. C.; and **Noah Gibson** of Randolph Mills, Inc., Franklinville, N. C.

Athol (Mass.) Manufacturing Co. has appointed **L. A. Girard** plant manager and **R. B. Mitchell** technical director of its new plant in Butner, N. C.

**Arthur Goostrey,** for many years overseer of dyeing at French Worsted Co., Woonsocket, R. I., is now with Enterprise Dye Works in that same city in a similar capacity.

**Theodore B. Hayward,** who recently retired after 53 years of service with Swift & Co.'s wool department, will become president of Franklin Parkway Co. in Philadelphia, Pa., in the near future, according to an announcement.

Assistant manager of the Hyde

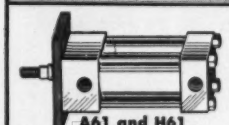
over 8,000 Different Cylinder SELECTIONS—

# Miller AIR AND HYDRAULIC CYLINDERS AND BOOSTERS "IN STOCK" for immediate delivery

See Miller Bulletins A-105K (Air) and H-104K (Hydraulic) for Complete Dimensions and Engineering Data on these "in-stock" sizes and other Custom Miller Cylinders in bores up to 20" and strokes up to 22 feet.

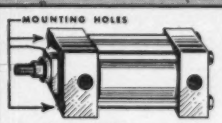
## "IN-STOCK" MODELS

"A" Signifies Miller 200 psi Air Cylinders; "H", 2000 psi Hydraulic Cylinders. Interchangeable Mountings Are Shown In Red On Drawings.

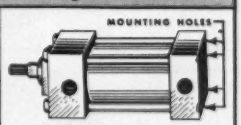


**A61 and H61**
Flange Mounting on Rod End
(A61 not available in 8" bore)

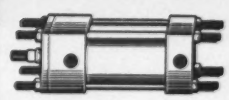
**A62 and H62**
Flange Mounting on Cap End
(A62 not available in 8" bore)



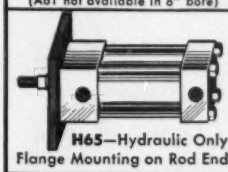

**A63—8" Bore only**
Flange Mounting on Rod End



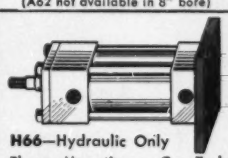

**A64—8" Bore only**
Flange Mounting on Cap End



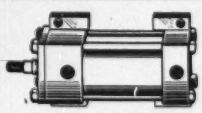
**A50 & H50**—Tie Rods not extended beyond nuts.
**A51 & H51**—Tie Rods extended both ends (shown).
**A52 & H52**—Tie Rods extended. Cap End only.
**A53 & H53**—Tie Rods Extended. Rod End only.
**A54 & H54**—Two Tie Rods extended at both ends.



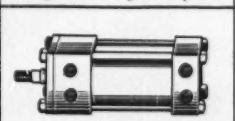
**H65**—Hydraulic Only
Flange Mounting on Rod End



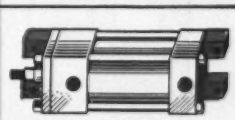
**H66**—Hydraulic Only
Flange Mounting on Cap End



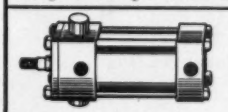
**A72 and H72**
Side Lug Mounting



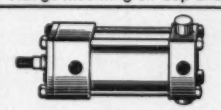
**A74 and H74**
Side Flush Mounting



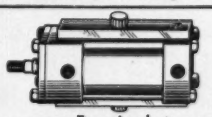
**A77 and H77**
Side or Foot Mounting



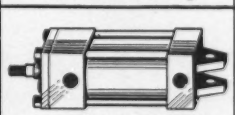
**A81 and H81** Trunnion Mounting on Rod End



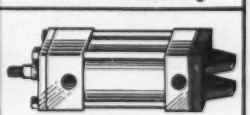
**A82 and H82** Trunnion Mounting on Cap End



**A83 and H83** Trunnion between Head and Cap (one week delivery)



**A84 and H84**
Pivot Mounting



**A86 and H86**
Pivot Mounting

## IN STOCK BORES In Inches

## "IN-STOCK" STROKES (in Inches)

| | Bores | Rod Dia. | Rod Turn Down & Threads | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR | 1½ | ⅝" | 7/16-20 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | |
| | 2 | ⅝" | 7/16-20 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 2½ | ⅝" | 7/16-20 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 3¼ | 1" | ¾-16 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 4 | 1" | ¾-16 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 5 | 1" | ¾-16 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 6 | 1⅜" | 1-14 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 8 | 1⅜" | 1-14 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| HYDRAULIC | 1½ | ⅝" | 7/16-20 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | |
| | 2 | 1" | ¾-16 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 2½ | 1" | ¾-16 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 3¼ | 1⅜" | 1-14 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 4 | 1¾" | 1¼-12 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | 5 | 2" | 1½-12 | Cushioned | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |
| | | | | Non-Cush. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 28 | 32 | 36 |

(1) (2) (3) (4) refer to the stroke-area notes below.

"A" and "H" Models 82, 84 and 86 with strokes over 18" require stop tubes.

Column strength requires larger diameter piston rods for the following:

Air Cylinder Models A82, 84, and 86 with strokes inside area (1), when operated at 100 psi and over;

All hydraulic models with strokes inside area (2) and Models H82, 84, and 86 with strokes in area (4), when operated at 2000 psi and over;

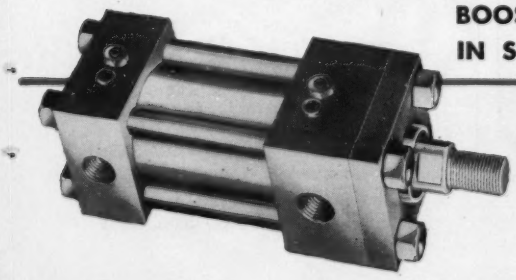
Models H82, 84 and 86 with strokes inside area (3), when operated at 1000 psi and over.

Depending upon Trunnion Pin location, "A" and "H" Models 83 with standard diameter piston rods can have longer strokes than Models 82, 84 and 86.

See Miller File #251 for oversize piston rod and stop tube requirements.

## BOOSTERS IN STOCK

Immediate Delivery on the following Miller 25 to 1 Ratio Boosters (80 psi air input produces 2000 psi hydraulic oil output): Model B4, 5" bore, 1" dia. ram, 6" and 12" strokes; Reciprocating Booster Model DA77-RBA8, 5" bore, 1" dia. ram, 6" stroke. Also Booster Tanks, 5" dia., 6" and 10" heights.



*Write For Catalog and Stock Price List*

Miller

**MILLER FLUID POWER CO.**

**2042 N. Hawthorne Ave., Melrose Park, Ill.**

AIR & HYDRAULIC CYLINDERS • BOOSTERS • ACCUMULATORS
COUNTERBALANCE CYLINDERS

## Personal NOTES ABOUT MEN YOU KNOW

Park Mills, Inc., Covington, Tenn., **John M. Henry,** has resigned to accept a position as plant manager with Coosa Yarn Mills, Inc., Attalla, Ala.

**Morris L. Hirsh** has been named executive vice-president of Star Woolen Co., Cohoes, N. Y. Mr. Hirsh joined Star Woolen in 1935 as a chemist and at the time of this most recent appointment was vice-president.

New personnel manager of Clarksville (Ga.) Mill is **George Jarrard,** formerly general overseer of the cloth room and overseer of weaving.

New foreman of Avondale Mills' Eva Jane plant weave room is **Tom R. Johnson.** Prior to this promotion he was weave instructor for the plant.

Among the 273 Georgia scientists listed in the ninth edition of American Men of Science in Physical Sciences, published by the Science Press of Lancaster, Pa., are: **Professor Charles A. Jones,** Textile Engineering, Georgia Institute of Technology, Atlanta, Ga.; **Dr. Paul V. Seydel,** Chemistry, Seydell-Woolley & Co., Atlanta, Ga.; **Fred P. Strother,** Electronics, West Point (Ga.) Mfg. Co.; and **Dr. James L. Taylor,** Chemistry, Georgia Institute of Technology, Atlanta, Ga.

The following appointments were recently made at Chatham Manufacturing Co., Elkin, N. C.: **Robert H. Lankford** is superintendent of production control; **R. G. Boles** and **H. H. Barker** are mill superintendents of shifts B and C respectively; **J. A. Murphy** is superintendent of manufacturing; **Eugene W. Powers** is general supervisor of cards and ring spinning; and **M. H. Terrell** is general foreman of ring spinning on all shifts. General supervisor of mule spinning and rewinding is **B. W. Carter.**

**William S. Masland** (center), assistant secretary of C. H. Masland & Sons, carpet and rug manufacturers of Carlisle, Pa., and Max Hess, Jr., (right) president of Hess Brothers, Allentown, Pa., are pictured here receiving "American Family Heritage" awards from Elmer M. Jackson (left) vice-president of the Capitol

Gazette Press, Annapolis, Md. The awards were presented by the Free Enterprise Awards Association, Inc., to business founders and heirs symbolizing the family business success possible under the American free enterprise system.

The Wool Bureau, Inc., has named **Dr. Gerald Laxer** head of the science and technology program of the Bureau, succeeding Giles Hopkins who recently resigned. Dr. Laxer was formerly research and development chemist for Alexander Smith, Inc.

Election of **Fred C. Livermore** as treasurer of Kaufman Knitting Co., Minneapolis, Minn., was announced recently.

New officers of the Carolinas Section of American Society for Quality


NON-FLUID OIL
TRADE MARK REGISTERED

TOPS FOR LOOMS!

Drip-spatter-leak! Ordinary liquid oils do just that—onto warps—goods—floor. The result: High seconds, higher oil cost, highest application costs.

NON-FLUID OIL stays in loom bearings lubricating until entirely consumed.

Send for free testing sample of A-#00000 grade NON-FLUID OIL for general oiling of looms to prove this.

TI

NEW YORK & NEW JERSEY LUBRICANT COMPANY
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Please send me, without obligation, a free testing sample of NON-FLUID OIL.

NAME_____TITLE_____

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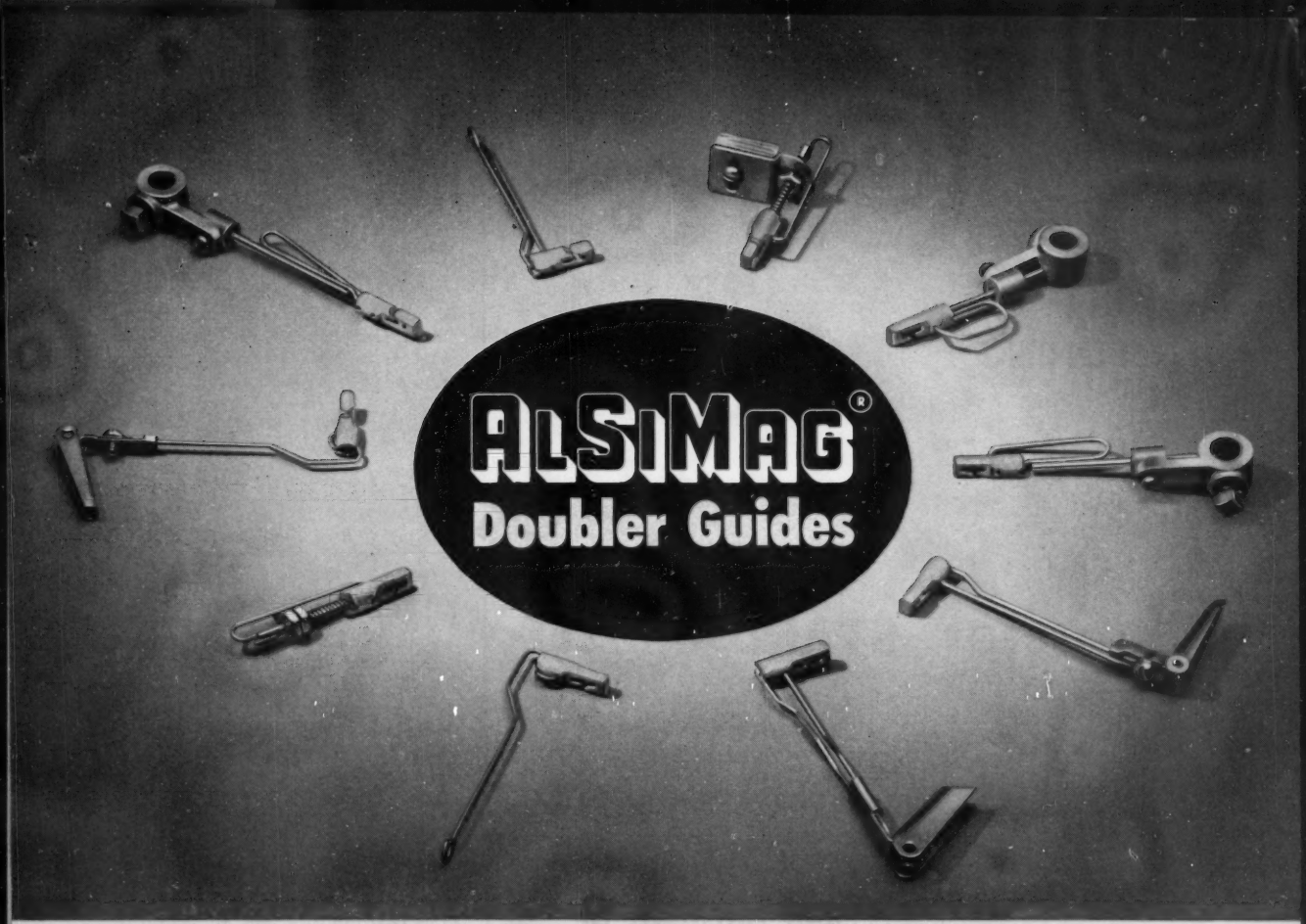


## *LIGHTER TENSIONS • HIGHER SPEEDS • LONGER LIFE*

**With these McHale metal holders, many machines can use AlSiMag Doubler Guides. The guide shown above— which fits all holders—is AlSiMag part GE-17147. (Holders can be obtained from M. J. McHale Co., 136 W. Market Street, Scranton, Pa.)**

The need for lighter tensions has greatly increased the demand for AlSiMag Doubler Guides. Uniform, low tensions are easy to obtain with these versatile guides—which often improve yarn quality. Higher speeds are also possible.

All AlSiMag Doubler Guides are homogenous—have no surface "skin" to wear through and cause yarn damage. Their longer life means lowest guide cost per pound of processed yarn.

The illustrated guides are of AlSiMag 192, an ivory colored, non-conductive material. Electrically conductive AlSiMag 193 is also popular for certain types of Doubler Guides. (Helps control static and is metallic grey in color.) Bright or satin finishes available in both materials.

Many machines are already equipped for installing superior AlSiMag Doubler Guides. Others can be easily adapted to use these guides by the addition of McHale metal holders. The wide selection of holder attachments shown above—all designed to fit AlSiMag Doubler Guide GE-17147—can be obtained from M. J. McHale Co., Scranton, Pa.

Samples of AlSiMag Guide GE-17147 are available upon request. If modified or special designs are required, test samples will be made to individual specfication at reasonable cost. Tell us your requirements and let us submit our recommendation without cost or obligation.

54TH YEAR OF CERAMIC LEADERSHIP

**AMERICAN LAVA CORPORATION**

**CHATTANOOGA 5, TENNESSEE**
A Subsidiary of
Minnesota Mining and Manufacturing Company

**SALES ENGINEERS:** NORTH EAST: Jay S. Gosnell, 671 Broad Street, Newark, N. J., Mitchell 2-8159. NORTH CENTRAL: Minnesota Mining & Mfg. Co., 367 Grove Street., St. Paul 1, Minn., Cedar 3071. NORTH WEST: Minnesota Mining & Mfg. Co., 320 Shaw Road, S. San Francisco 10, Calif., Plaza 6-0800. SOUTHERN CALIFORNIA: Warren L. Thompson, 5603 N. Huntington Drive, Los Angeles 32, Calif., Capitol 1-9114. SOUTH CENTRAL: John A. Green, 6815 Oriole Drive, Dallas 9, Texas, Dixon 9918. SOUTH EAST: Joe E. Spearman, American Lava Corp., Chattanooga 5, Tenn., 5-3411. ALL OTHER AREAS: J. B. Shacklett, American Lava Corp., Chattanooga 5, Tenn., 5-3411. CANADIAN REPRESENTATIVE: Ian M. Haldane & Co., P. O. Box 54, London, Ontario. CONTINENTAL EUROPEAN REPRESENTATIVE: P. C. Huguenin Luzern, Gerbergasse 6, Luzern, Switzerland.

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STANDARDIZED
STARCHES

FOR THE SIZING
AND FINISHING OF

TEXTILES

Technical Service in connection with your specific problems is available upon request.

CLINTON FOODS INC.
CORN PROCESSING DIVISION
CLINTON, IOWA

## Personal NOTES
ABOUT MEN YOU KNOW

Control are: Chairman—**G. Dent Mangum** of N. C. State College, Raleigh, N. C.; vice-chairman—**S. B. King,** Limestone Mfg. Co., Gaffney, S. C.; secretary—**Ashley Roberts,** China Grove (N. C.) Cotton Mills; and treasurer—**Frank Hunsucker,** Highland Park Mills, Charlotte, N. C. Elected to the executive committee were: **T. R. Jones** of the Kinston, N. C., plant of E. I. du Pont de Nemours & Co., Inc.; **Charles R. Bradford** of Georgia Duck & Cordage Co., Scottdale, Ga.; and **J. S. Bethel** of N. C. State College, Raleigh, N. C.

New members of the executive committee of the Warp Knit Manufacturers Group of the National Federation of Textiles are: **Gilbert Cohn** of United Merchants and Manufacturers, Inc.; **George Hein** of Celanese Corp. of America; **Randolph A. Walker** of Woodside Mills; **Hugh J. Beard** of Burlington Industries; and **Seymour Sahlein** of Frank Ix & Sons Inc. Elected vice-chairman was **William D. Scott, Jr.,** of Blue Ridge Textile Co.

Chicopee Mfg. Corp., New Brunswick, N. J., has elected **John J. Smith** to its board of directors. Mr. Smith is

**Mr. Smith**

a vice-president and general manager of the company's Non-Woven Fabrics Division.

Newly elected president of Botany Mills, Passaic, N. J., is **A. M. Sonnabend,** chairman of the board. He succeeds **George Shaddock** who has resigned. **E. N. Chamberlain,** executive vice-president, is now also a director.

**William Taylor,** formerly second hand of carding at Howard Arthur Mills, Fall River, Mass., is now overseer, succeeding **Samuel Fitton** who has retired.

**Ray Thomas** is new superintendent of the Goodyear Decatur (Ala.) Mills. He is succeeded as overseer of card-

*(Continued on page 44)*

# FOR TOP QUALITY SHUTTLES...

## Look for these Trade Marks

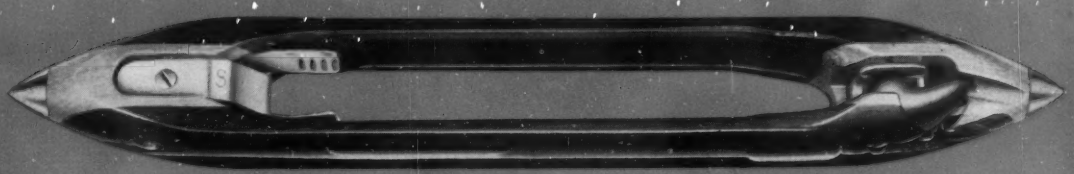
QUALITY

Stehedco

CONTROL

TEMPERED

STEHIDE



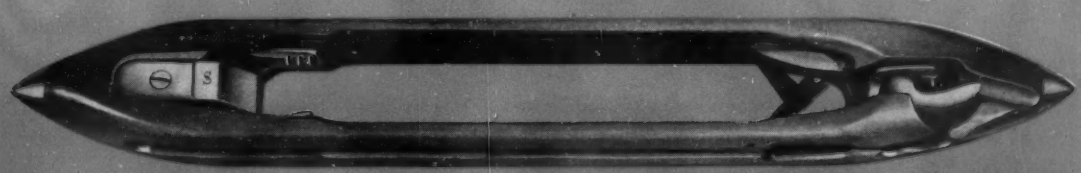
### ANOTHER SOUTHERN EXCLUSIVE... *QUALITY CONTROL*

A few years ago the Southern Shuttles Division started a system of Statistical Quality Control. A new approach to an old problem, it is based on the premise that no two items can ever be exactly alike. This system sets up allowable tolerances. Quality is controlled through all the manufacturing processes rather than by inspection alone of the finished product.

Setting up this system for all incoming materials and manufacturing operations required establishing exacting specifications, permissible tolerances, retraining of inspectors and considerable statistical analysis.

After years of intensive work, this system is now functioning smoothly, and with pride and confidence Southern now identifies its products with the Quality Control symbol along with its well known Tempered and Stehide trade-marks. One more feature pioneered by Southern to give you greater value and dependability in shuttle performance.

**SOUTHERN... The Largest Single-Unit Shuttle Plant in The World**



## SOUTHERN SHUTTLES

A DIVISION OF STEEL HEDDLE MFG. CO.

PARIS, GREENVILLE, S. C.

*It's Southern for Service and Delivery*

**Tempered Dogwood Shuttles • Duraweld Picker Sticks • Supreme Reeds**

**Hard Chrome Electro Plating • Castings • Stampings**

1-R-2

## ®Varkon FP
(POWDER)

*Effective against CALCIUM – MAGNESIUM – IRON and other heavy metals such as COPPER, ZINC, etc.*

- Highly effective in preventing *iron stains*
- Prevents iron from interfering with the efficiency of the bleach in peroxide bleaching
- Improves efficiency and foaming characteristics of soap and synthetic detergents in scouring operations
- Assists in obtaining a much better strip of chrome dyed materials

## ®Varkon M
(LIQUID)

*Particularly effective against CALCIUM and MAGNESIUM*

- Used with soap in extremely hard water, it improves efficiency, increases foaming
- In dyeing (particularly woolens) Varkon M helps produce brighter and cleaner shades
- As an additive to textile printing gums, prevents "lake development due to presence of calcium or other impurities in the gums"

## ®Varkon FL
(LIQUID)

*Developed for the specific purpose of CHELATING IRON and other heavy metals under strongly alkaline conditions*

- Prevents stains caused by iron in kier-boiling of cotton goods
- Results in improved whiteness and bottoming of the material
- Also useful in mercerizing, to prevent iron stains

*Write for Technical Service Bulletins*

**ARKANSAS CO., INC.**
*Serving the Textile Industry for over 50 Years*
NEWARK, NEW JERSEY

# in the old days...

# COTTON WAS PICKED CLEAN!

The problem of cleaning cotton today is entirely different from what it was forty years ago—or even fifteen years ago.

Before about 1915, very few American cotton mills had any cleaning machinery at all—they didn't need it. Cotton was picked, a lock at a time, with the utmost care by hand, and it was clean. Most mills used strict middling, or better.

But strict middiing cotton averaged 2.9% foreign matter — mostly motes. These motes had not been shattered at the gin, and were easy to take out. Today, strict middling cotton may contain as little as 0.6% to 0.8% of foreign matter, but this little bit of trash has been so ground up at the gin that strict middling cotton may make dirtier yarn than middling or strict low middling which has not been overworked at the gin.

The mill manager looking for a profit can install the Aldrich-Lummus Super-Jet cotton cleaning system and actually make *better* yarn from less expensive cotton.

**AldricH MachinE WorkS**

**Greenwood, South Carolina**

**YOU FURNISH THE PRINT, WE'LL FURNISH THE PART**

## SYNTHANE REDRAW CAPS FOR NYLON SHIPPING PIRNS ARE SMOOTH, SNAG-FREE, PRACTICALLY INDESTRUCTIBLE

*Synthane* laminated plastic redraw caps are typical of many *Synthane* parts at work in the textile industry. Bobbins, pirns, headless package tubes, hosiery turning and examining forms, and sizing bobbins are often made of *Synthane*.

For redraw caps the advantages most desired of *Synthane* are snag-free smoothness for draw-off surfaces and long life. Other textile components, depending upon their functions, require light weight, hardness, temperature or dimensional stability, rigidity, crush-resistance, wear resistance, resistance to moisture or dyes. *Synthane* laminated plastics have all these properties in combination.

*Synthane* is also able, by reason of experience and equipment, to produce quality textile parts—usually at a reduction in time, money, and rejects.

Information on most of the *Synthane* laminated parts for the textile industry is available in a special textile folder. We'll be glad to send you a copy promptly. Use the coupon.

**SYNTHANE CORPORATION, 9 River Road, Oaks, Pa.**

Please send me a copy of the *Synthane* textile folder.

Name_____

Title_____

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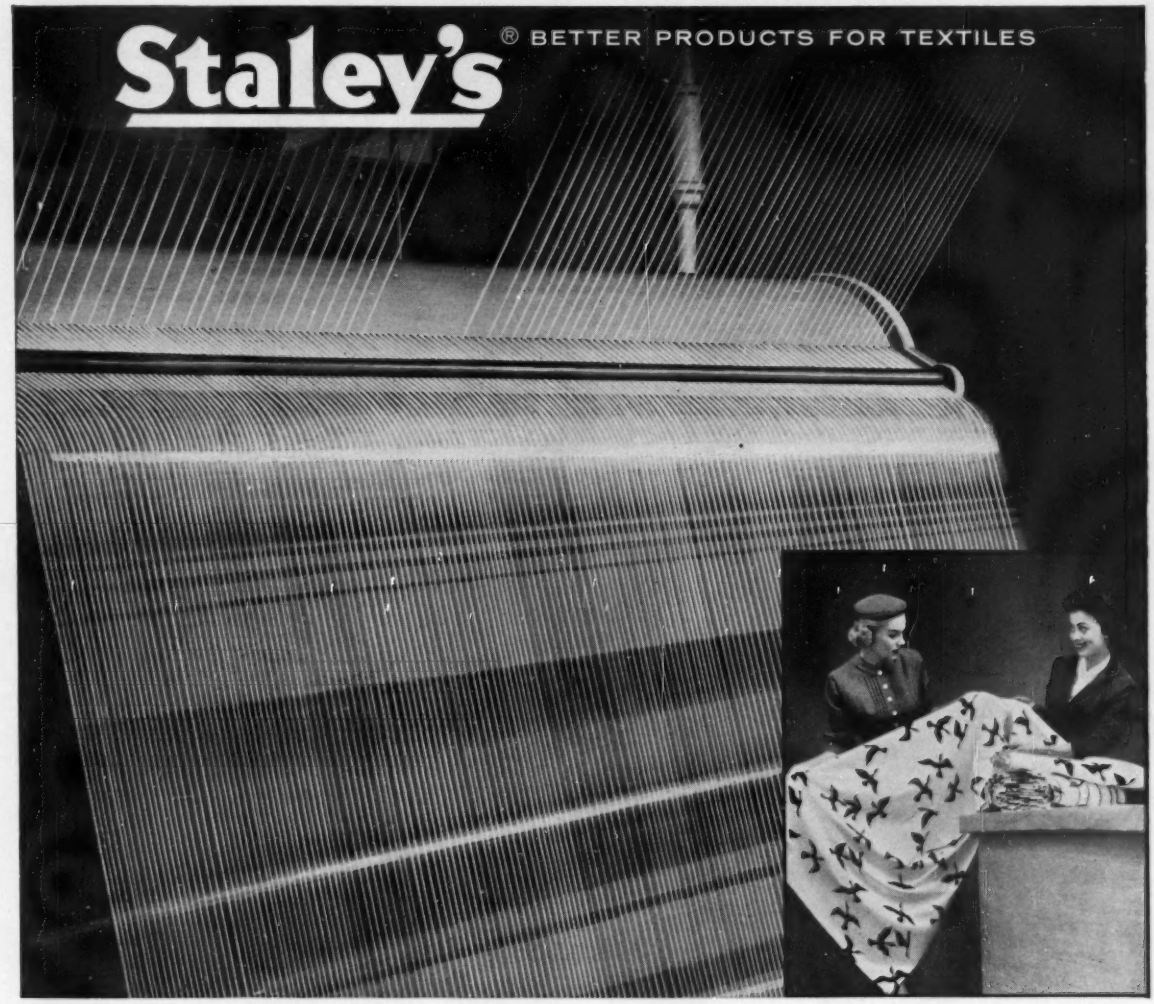
**SYNTHANE** LAMINATED PLASTICS

**SYNTHANE CORPORATION • OAKS, PENNSYLVANIA**




# Higher weave-room efficiency...higher profits with Staley's Eclipse Sizing Starches

## *Southern textile mill cuts costs... boosts output with an assist from Staley's technical staff*

Low weave-room efficiency was stealing profits from this mill at a fast rate. End breakage in the loom caused dollar loss in machine downtime, lost man-hours, and disruption of production and delivery schedules.

The problem was given to a Staley Technical Sales Representative. After checking conditions carefully, he recommended Staley's Eclipse Starch as a more effective sizing starch, and suggested several changes that would give plant operators closer control over production.

When his recommendations were put into practice, the results were excellent. Weave-room efficiency jumped . . end breakage was cut to a minimum and orders were filled on time. This success is *not* unusual. Your expert Staley Technical Sales Representative can help you solve the problems that are stealing your profits. See him now.

**A. E. Staley Manufacturing Company, Decatur, Illinois**

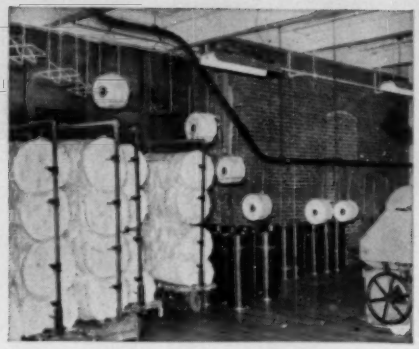
Branch Offices: Atlanta · Boston · Chicago · Cleveland · Kansas City · Philadelphia · New York · St. Louis · San Francisco

PRODUCTS FROM CORN
Staley's
AND SOYBEANS

**QUALITY TEXTILE PRODUCTS**

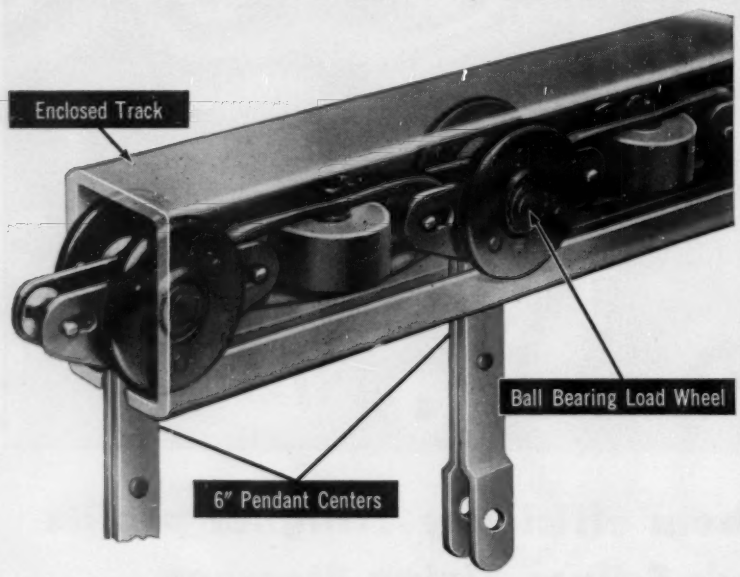
**Dextrins**
**Pearl Starches**
**Thin Boiling Starches**
**Oxidized Starches**

# R-W "Zig-Zag"®



## Continuous Power Conveyor

SETS THE PACE FOR QUALITY, SAFETY, EFFICIENCY, ECONOMY




R-W ZIG-ZAG Conveyors offer safer, more efficient, more economical service. The ball bearing chain is fully enclosed for maximum safety and to keep dirt and dust from the moving parts.

ZIG-ZAG is extremely flexible in installation. Standard sections make it easy to conform to any specifications. The system may be expanded, altered or relocated by plant personnel, usually without waste of a single part.

ZIG-ZAG Conveyors carry materials up, down, in, out and around, like water through a pipe. With carrying pendants located on 6-inch centers, ZIG-ZAG can handle most any load required in light and medium industries. A choice of drive units permits travel at any required speed with variations of 10 to 1 or better.

Unlike most other conveyors, ZIG-ZAG can get down and back up again in minimum space due to its standard 2-foot radius vertical curves.

*For complete information, write for catalog No. A-93-R.*

75 YEARS of QUALITY and SERVICE by RICHARDS-WILCOX AURORA, ILLINOIS

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT • INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS •

Richards-Wilcox Mfg. Co.

MATERIALS HANDLING DIVISION
Branches in Principal Cities

440 W. THIRD STREET, AURORA, ILLINOIS


## Personal NOTES ABOUT MEN YOU KNOW

*(Continued from page 38)*

ing and spinning at the Goodyear Clearwater Mills, Atco, Ga., by **Flurah A. Head,** who was formerly night superintendent of the Rockmart, Ga., plant.

**T. J. Floden,** president and treasurer of Nelson Knitting Co. in Rockford, Ill., has retired from the board of directors of the National Association of Hosiery Manufacturers. Elected to succeed Mr. Floden was **Felmont F. Eaves,** secretary and treasurer of Athens (Tenn.) Hosiery Mills.

**K. C. Mills,** former superintendent of the Sherbrooke, Que., branch of Dominion Textile Co., Ltd., has been transferred to the main office as special assistant to the general manufacturing manager. **Raymond Charlebois,** former superintendent of the Mount Royal branch in Montreal takes over from Mr. Mills at Sherbrooke; and **P. E. Malo,** formerly general superintendent of the Drummondville, Que., division of the company, succeeds Mr. Charlebois at the Mount Royal branch.

The Blue Ridge Safety Council has elected the following officers: **L. B. McAbee** of Firestone Textiles, Gastonia, N. C., chairman; **H. L. Parker,** Marion (N. C.) Manufacturing Co., co-chairman; **M. G. Allen,** Alexander Manufacturing Co., Forest City, N. C., secretary and treasurer; and **H. S. Baucom,** N. C. Industrial Commission, director.

Assistant treasurer and clerk **Alphonse J. Morin** has recently retired after 43 years with Belknap Mills Corp., Laconia, N. H.

Recently appointed personnel manager of the Granite Plant, Haw River, N. C., of Cone Mills Corp. is **Robert Rigdon Scruggs,** formerly supervisor of third shift dyeing department.

New assistant to the general manager of cotton textiles at Firestone Tire & Rubber Co.'s plant in Sao Paulo, Brazil, is **W. A. Rhyne** who held a similar position at the company's Gastonia, N. C., plant.

New treasurer of the Eastern District of the National Knitted Outerwear Association is **George Vargish** of Emmaline Knitted Sportswear Co. Elected vice-presidents were: **Morris Kasper,** Central Knitwear, Inc.; **Irv-**

*(Continued on page 237)*

# ANNOUNCING!

**...A TOTALLY NEW NEEDLE LUBRICANT**
**for fine-gauge full-fashioned and seamless knitting machines**

# SHELL VEXILLA OIL 117

**1. 12 TIMES GREATER RUST PROTECTION** than the best current oils . . . during both operating and shutdown periods.

**2. Eliminates green soap formation,** and minimizes machine oxidation.

**3. Controls nylon size deposits,** and permits easy cleaning during shutdown periods.

**4. Very low surface tension,** resulting in increased wetting and lubrication.

**5. No gummy deposits . . .** contains no fatty acids.

**Shell VEXILLA OIL 117** establishes a new set of standards in knitting machine lubrication. Test it in comparison with the oil you are using. Write for further information.

**SHELL OIL COMPANY**
50 West 50th Street • New York 20, New York

SHELL

**HERE'S PROOF!**

# New Dayco Thoro-Size Slasher less waste, lower cost

**Result of 11 years' intensive research, Dayco slasher rolls greatly improve quality and output of slashing operation.**

You'll get *faster, more uniform,* more *efficient* sizing with new Dayco Thoro-Size slasher rolls — and save money in the process. There are many excellent reasons why this is true, as more mills are learning every day.

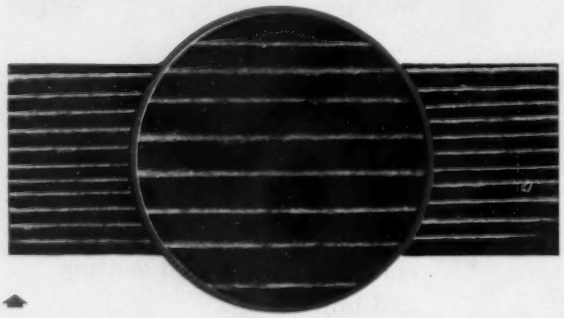
In the main, Daycos do a better sizing job because they're made of new materials and special compounds which give these remarkable slasher rolls a highly resilient surface. A surface that accurately controls the starch sizing solution, within desired limits, when impregnating the warp yarn, thus imparting a cleaner, more consistent uniformity. Waste is eliminated because excess starch is squeegeed back into the tank.

Quality is improved because Daycos are made in one piece and, therefore, will not damage the fibres.

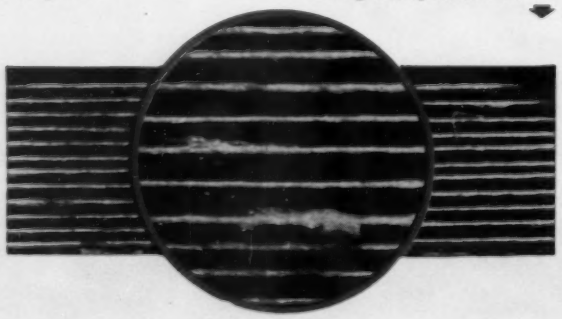
Having no seams, Daycos will not streak, spot or leave roll marks. Also, Dayco Thoro-Size rolls require no soaking or warming-up after week-end shutdowns, nor do they have to be removed when changing sets. This means faster starts and more productive hours of profitable operation.

Dayco rolls require no covering — a saving that is multiplied, for the surface can be renewed by grinding for double and triple service life.

For proof of Dayco Thoro-Size slasher rolls' superior performance — just check the photographic facts below. For proof of Dayco *savings* — check your Dayco representative. He'll be glad to help install a Dayco in your mill!



Here is a magnified section of warp yarn sized by new Dayco Thoro-Size slasher rolls. Note clean, uniform appearance throughout.



Warp yarn from the same mill sized by ordinary slasher rolls. Note uneven and irregular sizing along the yarn, denoting inadequate control.

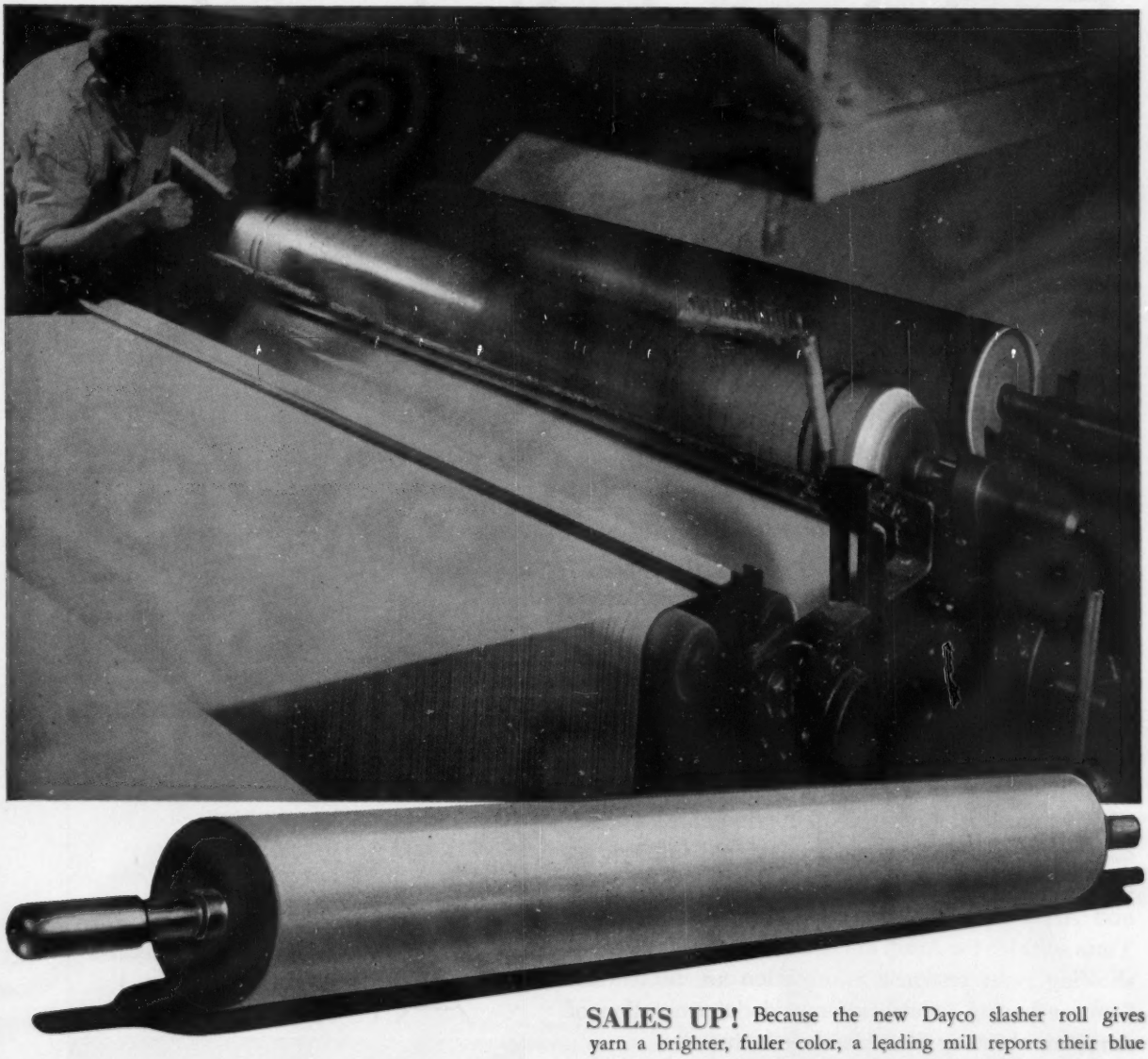
***DAYCO Thoro-Size slasher rolls improve quality, reduce costs TEN Ways:***

**DAYCO THORO-SIZE ROLLS —**

- Pay for themselves in 6 months to a year
- Greatly increase the uniformity of sizing
- Retain their resilience, require no covering
- Do not groove, have no seams, leave no roll marks
- Dress the yarn exactly as desired — no harsh surface to add problems
- Reduce waste of sizing when starting new sets
- Do not have to be removed when changing sets
- Are not affected by oils or chemicals
- Embody unusual properties for removing excess starch from warp yarn
- Can be resurfaced for double and triple life

Call your Dayco Representative today or write to Dayton Rubber Co., Textile Division, Dept. 366, 401 S. C. National Bank Bldg., Greenville, S. C.

# Rolls offer more uniform sizing,



**SALES UP!** Because the new Dayco slasher roll gives yarn a brighter, fuller color, a leading mill reports their blue denim cloth is now deep blue instead of grayish blue. Result . . . sales are up and sizing operation costs down!

GOLDEN JUBILEE

**Dayton Rubber** 50 YEARS OF PROGRESS

© D.R. 1955

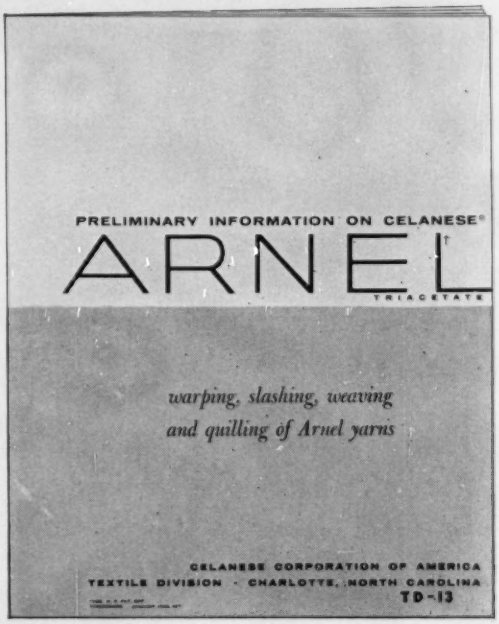
*Dayco and Dayton Thorobred Textile Products for Better Spinning and Weaving*

# Two new technical bulletins available on Celanese*

# ARNEL†

TRIACETATE

If you are now using, or plan to use, Celanese Arnel, you will find these two new Celanese Bulletins of great help. They summarize existing experience on Arnel including Celanese Research and Development findings. For a copy write to the district sales office nearest to you and ask for them by number.

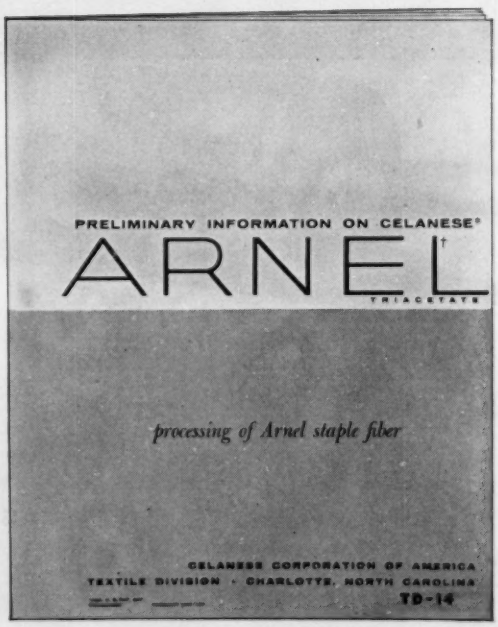



## TD-13 "Warping, Slashing, Weaving and Quilling of Arnel Yarns"

This bulletin contains formulas and typical procedures for slashing Arnel spun and filament yarns. In addition, important suggestions are made in regard to fabric constructions to help take advantage of Arnel's intrinsic properties.

## TD-14 "Processing of Arnel Staple Fiber"

This 12 page comprehensive bulletin contains much data on the spinning of Arnel staple into yarns. Strength and elongation of typical 100% Arnel yarns and Arnel blended with other fibers are included. Tints suitable for Arnel are listed. In addition, curves showing twist response information are illustrated. The method of identification and determination of Arnel in fabrics or fiber blends is included.

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*Sales Offices:* New York, N. Y., 180 Madison Ave.
Charlotte, N. C., Box 1414
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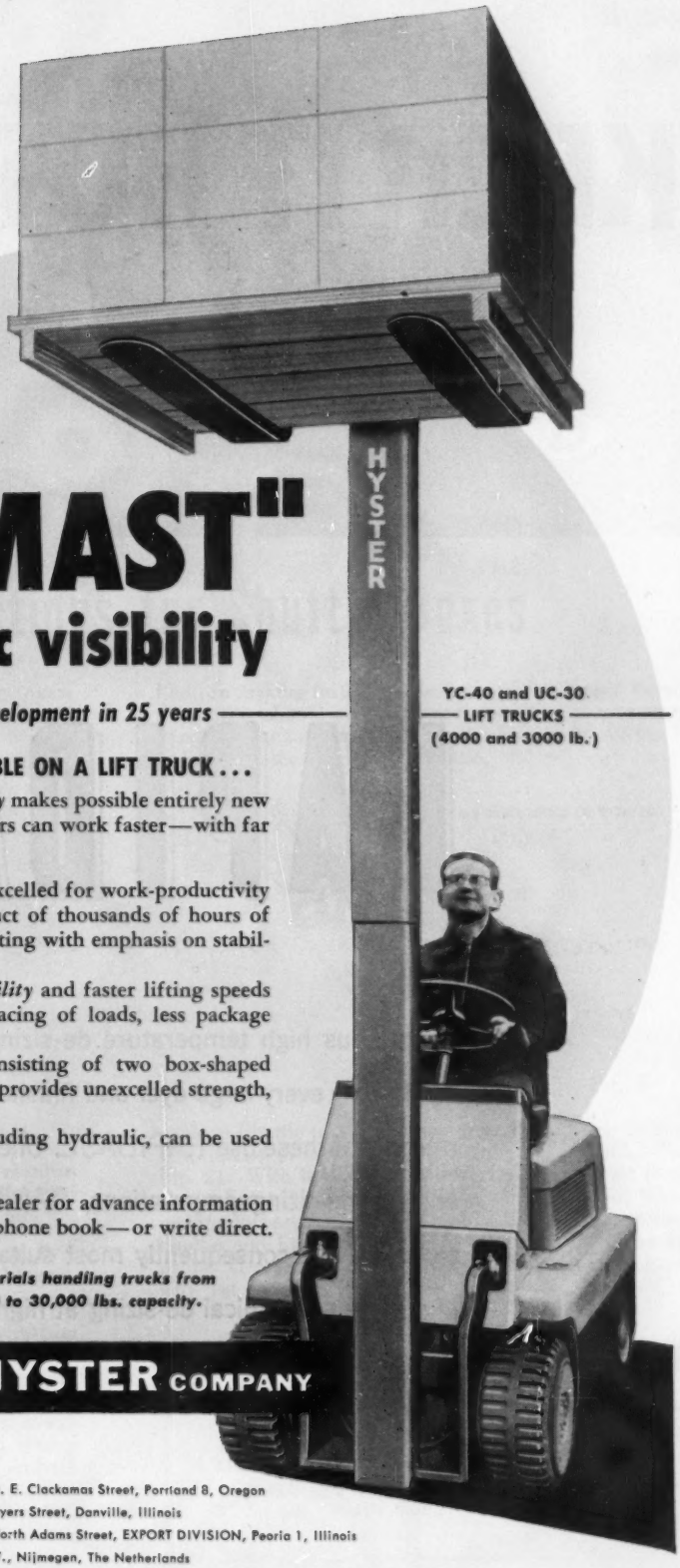
Celanese

CORPORATION OF AMERICA, N.Y. 16

# the revolutionary NEW HYSTER "MONOMAST" with panoramic visibility

*the greatest basic lift truck development in 25 years*




YC-40 and UC-30 LIFT TRUCKS (4000 and 3000 lb.)

**OPERATOR VISIBILITY NEVER BEFORE POSSIBLE ON A LIFT TRUCK...**

Exclusive "Monomast" *panoramic visibility* makes possible entirely new techniques in lift truck operation. Operators can work faster—with far greater safety.

**SAFER, STRONGER, FASTER.** "Monomast", unexcelled for work-productivity — five years in development — the product of thousands of hours of Hyster Proving Ground and actual job-testing with emphasis on stability, rigidity and strength.

Exclusive "Monomast" *panoramic visibility* and faster lifting speeds means faster approach, more accurate placing of loads, less package damage—*far more tons moved per hour.*

Unique "Monomast" construction, consisting of two box-shaped sections, one telescoping within the other, provides unexcelled strength, rigidity and safety.

Hyster® standard job-attachments, including hydraulic, can be used with the "Monomast".

**SEE THE DIFFERENCE.** Ask your Hyster Dealer for advance information — he's listed in the yellow section of the phone book — or write direct.

***Materials handling trucks from 1000 to 30,000 lbs. capacity.***

**HYSTER COMPANY**

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1010-57 Myers Street, Danville, Illinois
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Hyster N.V., Nijmegen, The Netherlands

**FOUR FACTORIES:** PORTLAND, OREGON; DANVILLE, ILLINOIS; PEORIA, ILLINOIS; NIJMEGEN, THE NETHERLANDS

"**MONOMAST**" trademark registration applied for.

**ON DISPLAY IN JULY** *at your* **HYSTER DEALER**

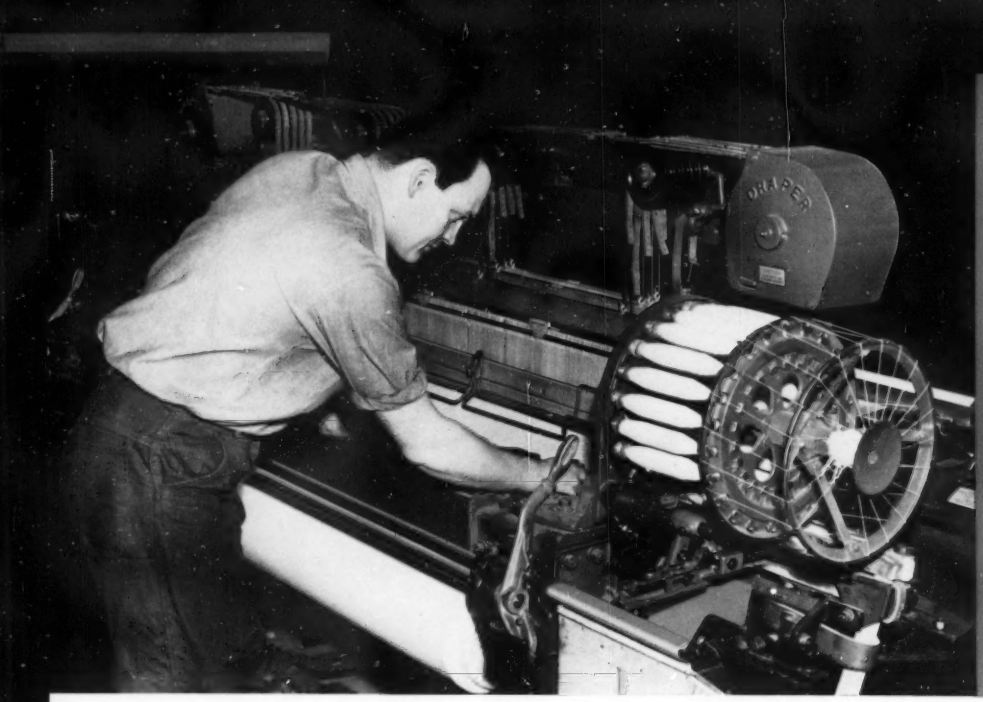
# KEEP IT HOT

**you save money at higher temperature with**

# RAPIDASE®

Continuous high temperature de-sizing has been adopted by virtually every large dyer and finisher in the country. The majority of these use RAPIDASE. One reason is that of all enzyme de-sizing preparations, RAPIDASE is most heat resistant and consequently most suitable for the speedier and more economical de-sizing at higher temperature.

**WALLERSTEIN COMPANY, INC., 180 MADISON AVENUE, NEW YORK 16, N. Y.**



No. 3 of a Series

# DRAPER LOOM FIXING

## Setting Instructions for Shuttle Boxes

Proper setting of Shuttle Boxes improves loom operation and reduces down-time. Periodic checks of Shuttle Box condition is recommended.

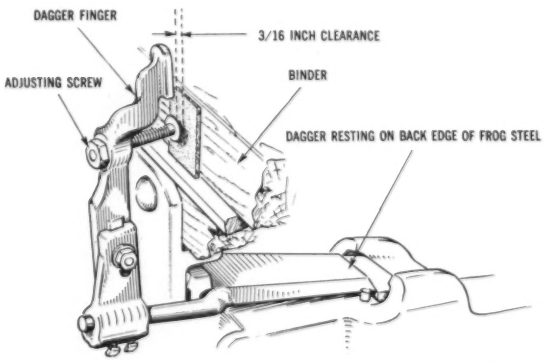



Fig. 1

**NOTE:** Correct application of Shuttle Boxes requires the use of Draper Front Box Plate Gauge as described herein and in gauge list Setting Instruction No. 555.

Before Shuttle Boxes are adjusted, check bolts in Protector Rod Bearings and set screws in Dagger Fingers, making sure that all are tight.

With Shuttle out of loom, set both Daggers to rest on the back edges of the Frog Steels (See Fig. 1). Set adjusting screws in Dagger Fingers to clear Binder by 3/16 of an inch. Replace the Shuttle in the Box and Set Dagger Stop to prevent over-action of the Daggers, avoiding cramping of the Shuttle Box. To obtain a setting using Front Box Plate Gauge, set Daggers to rest on back edges of Frog Steels as above. Place gauge in position under Dagger as shown in Setting Instructions No. 555 and No. 533-538. Place Shuttle all the way in Shuttle Box and adjust Dagger Finger Adjusting Screw until it contacts Binder.

Set Picker End of Front Box Plate so that spur of the Shuttle is central with the Picker Stick Slot in the Lay End. In making further adjustments of the Shuttle Boxes, this setting should not be altered more than is necessary. Check Picker to make sure that the hole in the Picker is in line with the spur of the Shuttle.

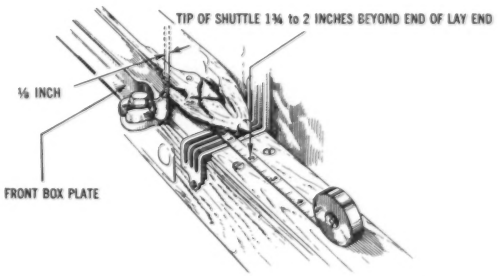



Fig. 2

Move Shuttle until Tip toward center of loom is from 1-¾ inches to 2 inches beyond end of Lay End. (See Fig. 2). With the Shuttle against back of Box, set inner end of Front Box Plate about ⅛ inch from Shuttle. When making this setting, insert Front Box Plate Gauge between Shuttle and Front Box Plate to make sure of obtaining proper clearance. Adjust Binder Bushing so that Daggers will just clear the Frog Steels.

**DRAPER CORPORATION**

**Advertising Department (T13)**
**Hopedale, Massachusetts**

Please send complete Setting Instruction No. 533 and No. 538 "Shuttle Boxes."

**Name** _____

**Position** _____

**Company** _____

**Address** _____

# DRAPER *TRUE FLIGHT* SHUTTLES

## ENGINEERED TO YOUR SPECIFICATIONS

. . . offer you *all the advantages* . . . because they are made from the finest raw materials by craftsmen who know your requirements.

The cotton shuttle illustrated is only one of 3000 types currently being manufactured by Draper Corporation.

**Special Features Include:**

| | |
|---|---|
| 1. Recessed Shuttle Spur | Furnished as specified, sharp, blunt, or semi-blunt. |
| 2. Spring Assembly | Furnished with either single, or double bolt construction with shake-proof washer. |
| 3. Bristles | Furnished as specified, Pig (large or small bunch), Horsehair, Regular Nylon, Fine Nylon, or Camel's Hair. |
| 4. Side Eye Opening | Furnished with S. F. 29 Thread Bushing, or Nitrated, Chrome Plated or Phonograph Needle Steel Pins. |
| 5. Shuttle Eye | See Below |

Patented Recessed Shuttle Spur

Short eyes and L.H. wind versions of the eyes shown are available.

#274 Cast iron eye with straight steel scroll

#340 Cast iron eye with curled steel scroll

#347 Cast iron solid scroll eye

#370 Cast iron solid machined scroll eye

**DRAPER CORPORATION**

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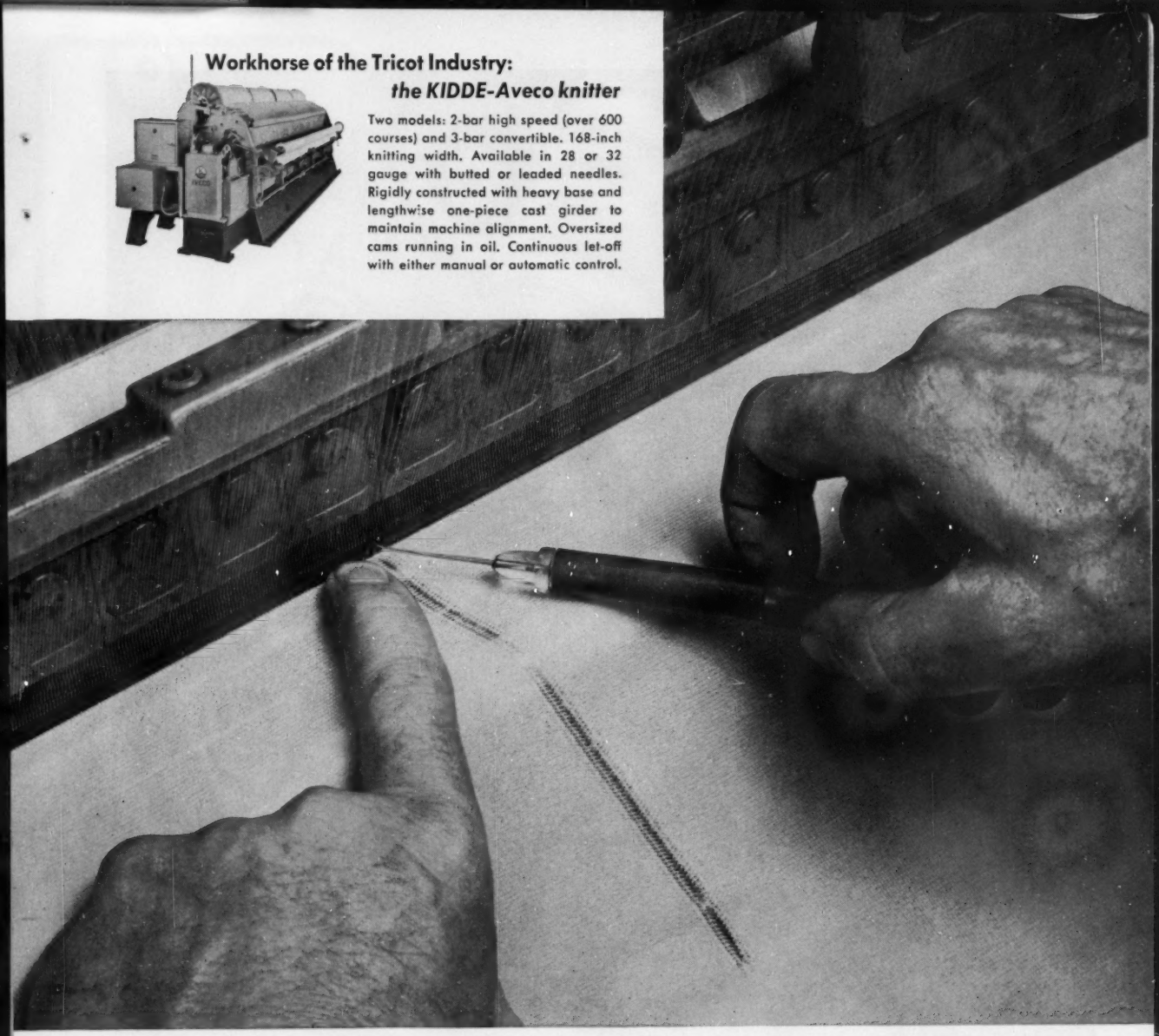
**Workhorse of the Tricot Industry:**
***the KIDDE-Aveco knitter***



Two models: 2-bar high speed (over 600 courses) and 3-bar convertible. 168-inch knitting width. Available in 28 or 32 gauge with butted or leaded needles. Rigidly constructed with heavy base and lengthwise one-piece cast girder to maintain machine alignment. Oversized cams running in oil. Continuous let-off with either manual or automatic control.



# There are only two alibis for this

In a well-run mill knitting tricot fabric on KIDDE-Aveco machines, there are only two excuses for an imperfection: a yarn defect or a broken needle.

Mills that operate KIDDE-Aveco tricots know that their gentle press action makes needles last longer . . . that they have fewer broken needles than with other machines. Both the Model E high speed 2-bar machine and the Model F 3-bar convertible have the ability to run for hours . . . producing piece after piece . . . without a damage caused by a needle break. This is one good reason why KIDDE-Aveco machines are known as the industry's greatest poundage producers.

If out-of-date tricot machines are hurting your competitive position, you'd better investigate KIDDE-Aveco knitters right now. For complete information, write to:

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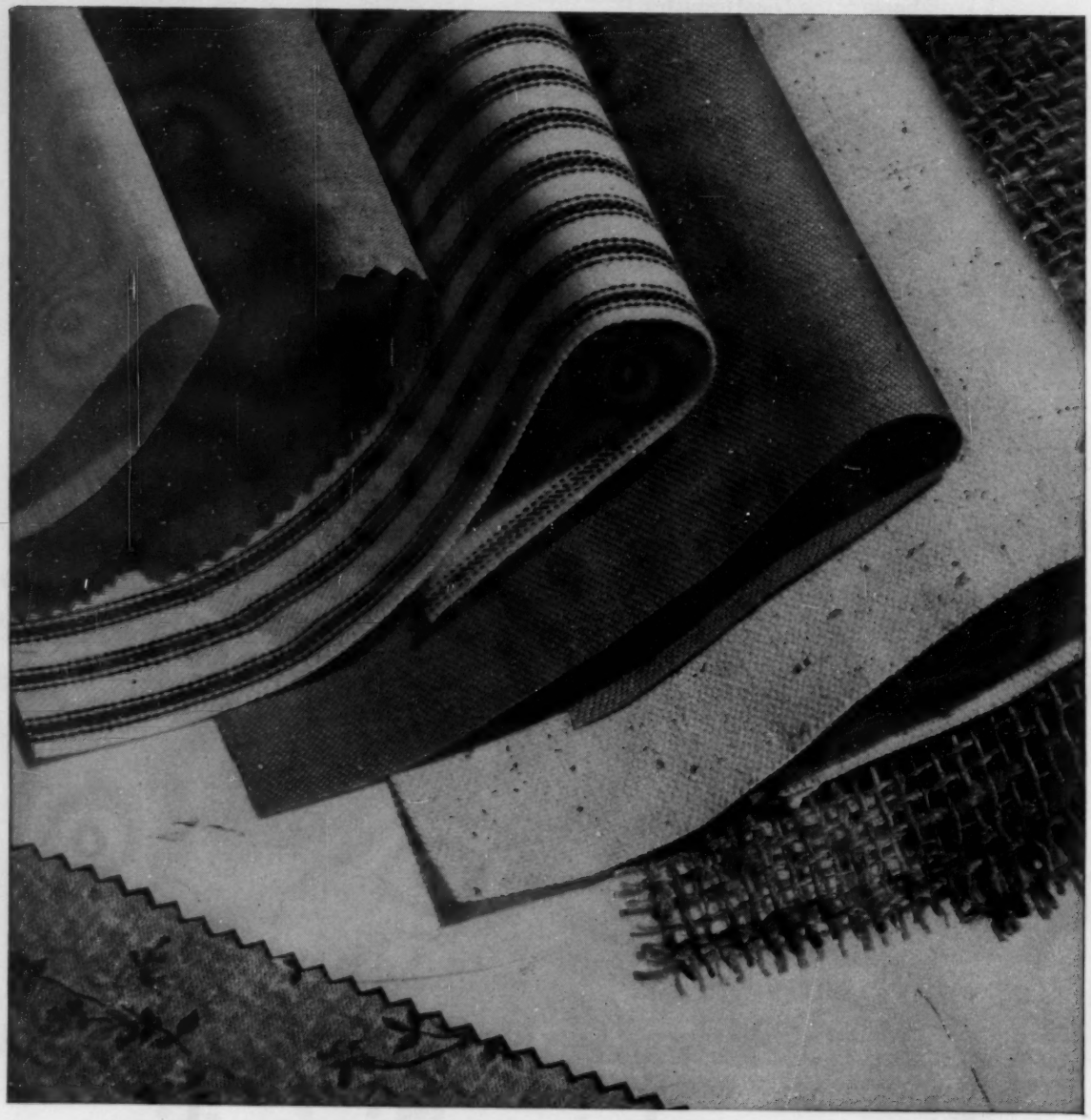
*The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.*



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We welcome an opportunity to help you with specific production problems. There is no cost or obligation. Write today.

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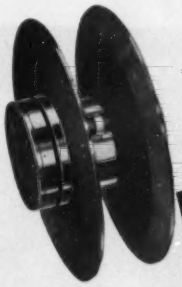
**CORN PRODUCTS REFINING COMPANY • 17 Battery Place, New York 4, N. Y.**



**American Adjustable-Diameter Sheaves** feature patented, double-taper hub which locks sheave to shaft, flanges to hub for powerful wedge-grip on the shaft. Flanges move simultaneously for perfect V-belt alignment. Entire unit is dynamically balanced for smooth operation. Adjusts to any pitch diameter in seconds.

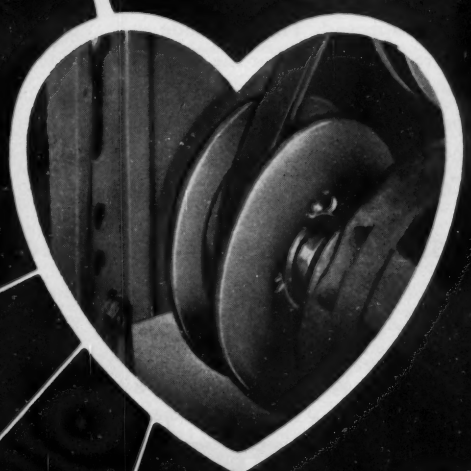
# Profit or loss? It's the heart of the machine that makes the difference

Probably no other manufacturing operation is so sensitive to speed variation as textile processing, where a 1% speed change often means the difference between profit and loss.

Belt-slip and creep, changes in pitch line under full load, differences in actual motor speeds from rated speeds and other variables can cause speed changes as high as 11% or more, on V-belt drives.

Best answer to the problem is simple, obvious, logical—an American Adjustable-Speed V-belt Drive. These drives permit fast, easy speed changes up to 100% by a simple screw adjustment which changes the pitch diameter of the drive sheave. No pulley switching, no expensive transmissions, little down-time is involved.

You'll find no more economical—or efficient—method of adjusting textile machinery to the one *right* speed for every process than American Adjustable-Speed Drives. See your distributor today or write for full details without obligation. The American Pulley Company, 4232 Wissahickon Ave., Philadelphia 29, Pa.

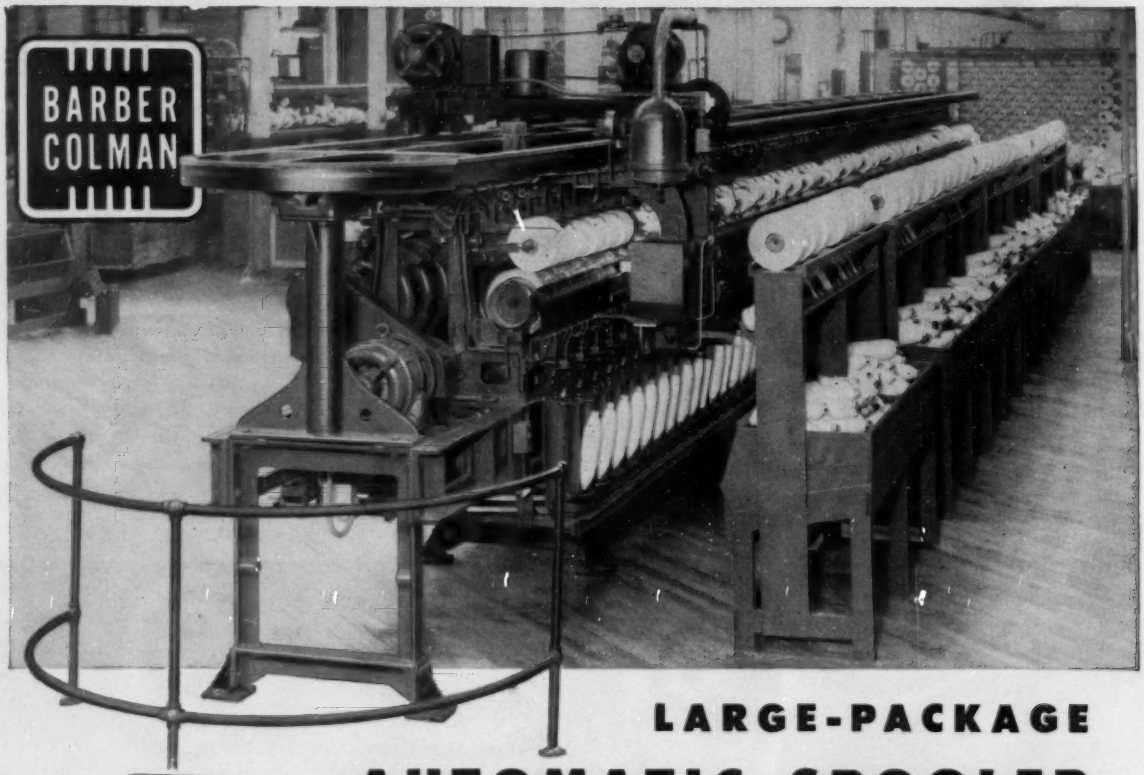


*At the Profit End of the Machine*

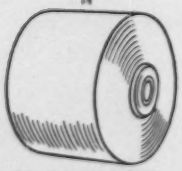
Power Transmission by

**AMERICAN**

PULLEY COMPANY




# LARGE-PACKAGE AUTOMATIC SPOOLER



**LARGE PACKAGES HAVE ADVANTAGES IN THE STEPS THAT FOLLOW SPINNING**

The new Type "D" Barber-Colman cheese holds 6½ lbs., which is 120,000 yards of 24s yarn, or 2½ times as much as the standard Type "C" cheese. This gives more slasher beams per cheese, even in the 40"-head size, and thus more loom beams per set. *This increase in loom beams per set, and the consequent reduction in creelings per week, can provide substantial cost reductions in many mills.* Similar advantages are available in the twisting.

In accord with the trend toward larger packages, the new Barber-Colman Type "D" Automatic Spooler offers advantages of special design for greater production and better product. While the machine resembles the familiar Type "C" in general appearance, many details have been changed and improved. These include new methods of handling bobbins, new drive and support for the cheeses, new yarn guides and cleaning devices, new vacuum system, added safety arrangements, new means for by-passing a running thread, and various others. All the way through, this new machine is built to fit the modern methods of up-to-date mills. *Consult your Barber-Colman representative for full details.*

## USE BARBER-COLMAN INSPECTION AND SERVICE

For *all* your Barber-Colman machines, be sure to call on the Service Department of your nearest Barber-Colman office. The men who staff this organization are specially trained and equipped, with a wealth of experience in checking, maintaining, repairing, and modernizing all types and models of Barber-Colman equipment. They are backed by alert main and branch offices who see that they are supplied with complete and reliable parts and information.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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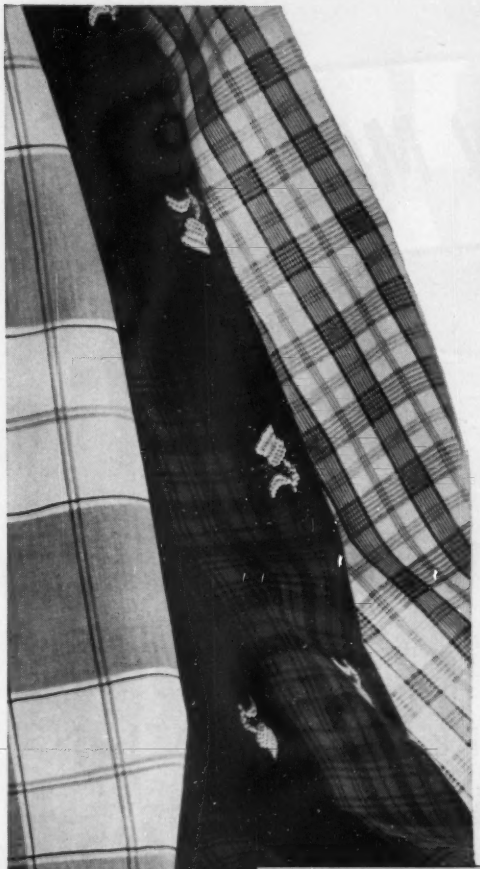

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## New Textile Dyeing Reagent

*6 Ways Better in Your Mill!*

**1.** Efficient, economical replacement, pound for pound, for anhydrous sodium sulphate in a neutral dye bath.

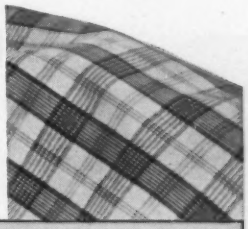
**2.** Neutral . . . readily soluble in either cold or hot water.

**3.** Can be used in either the dry granular form or automatically converted to fully-saturated brine with the TNA-5 Dissolver.

**4.** Eliminates dye precipitation, produces a good color yield, level shades and a soft finish.

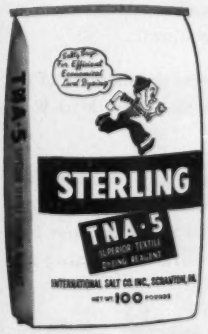
**5.** Can be used in a neutral dye bath when dyeing cotton, rayon, wool, or any blend of these fibers . . . in the staple, yarn or piece goods.

**6.** Especially effective with Direct or Naphthol dyes, it produces excellent crock fastness and clear, brilliant colors.



**FOR FINER DYEING . . . AT LOWER COSTS**

**Order Sterling TNA-5 Today! 100-lb. bags or bulk. For more information, send this coupon.**

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**International Salt Company, Inc.**
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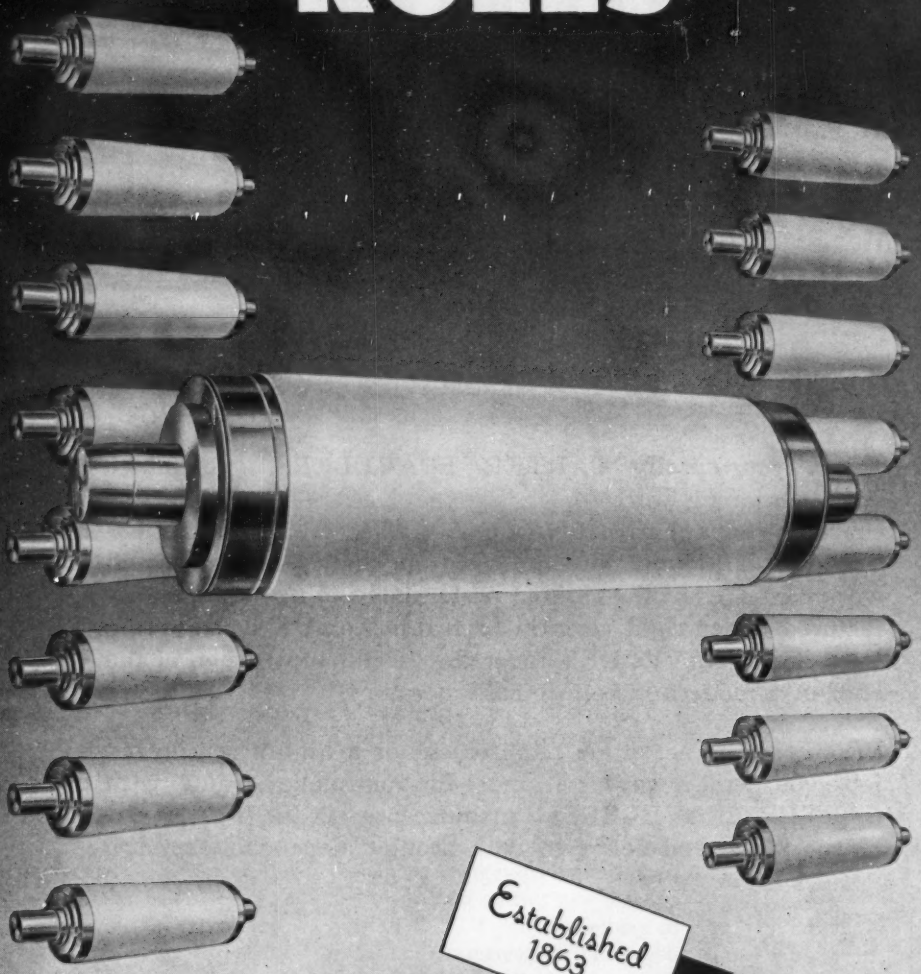


## HOLYOKE MACHINE COMPANY

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# CARTER TRAVELERS

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When you specify CARTER TRAVELERS, you insure smooth running work—finer, stronger yarns—simply because there is no substitute for QUALITY. With CARTER TRAVELERS you not only get top quality materials and workmanship, but the assured performance of a product manufactured under rigid scientific control. VALUE is built into CARTER TRAVELERS under the careful supervision of the staff of a modern metallurgical laboratory.

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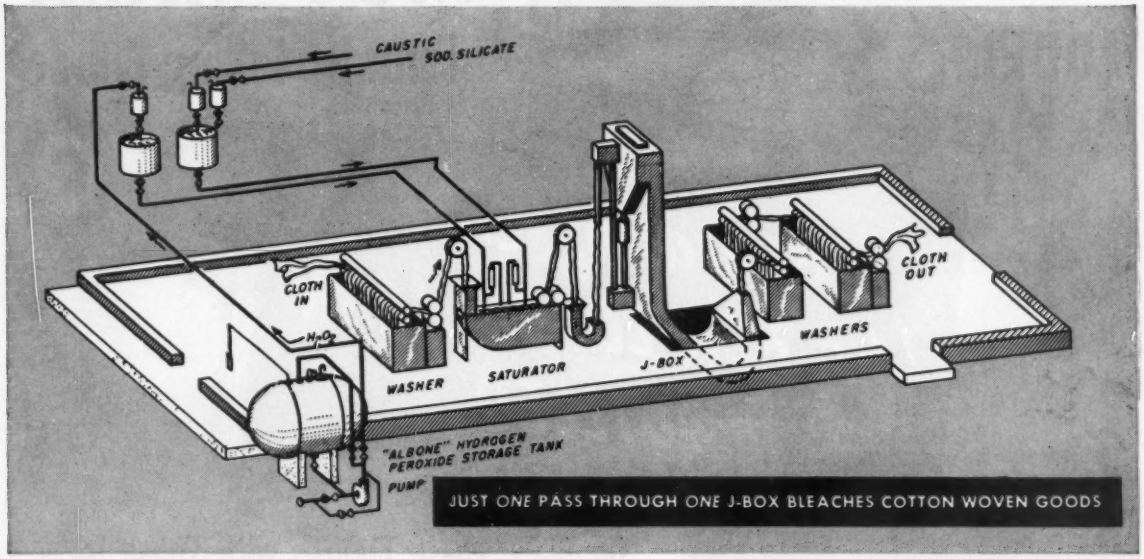
# Here's the latest Du Pont contribution to better peroxide bleaching for you




# ONE-STEP single-stage continuous bleaching of cotton woven goods

A NEW Du Pont development greatly simplifies the bleaching of cotton woven goods—cuts over-all costs as much as 20% and still produces results equal in every way to those obtained with multi-stage systems.

With Du Pont's compact new process, boiling out and bleaching are handled simultaneously. This means you can maintain present production levels with half the equipment, half the floor space . . . or double production with existing equipment. Mechanical damage to cloth from handling is reduced, and savings of up to 50% in labor, steam, water and power are quickly realized.

We'll be glad to show you how your present bleaching system can be modified to operate on this new *one-step* principle. Or, if you're planning to install new equipment, we'll show you how the Du Pont process can substantially cut the cost of your initial investment.

**NOTE:** *Du Pont does not build or sell bleaching equipment. However, DuPont systems are available* now *from leading equipment manufacturers.*

*Send coupon for details*

## DU PONT PEROXIDES

**ALBONE®** hydrogen peroxide, 35% and 50%

**PERDOX®** sodium borate perhydrate

**SOLOZONE®** sodium peroxide

Sodium perborate tetrahydrate

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**BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY***

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Wilmington 98, Delaware

☐ Please send full information about the new Du Pont single-step continuous bleaching system.

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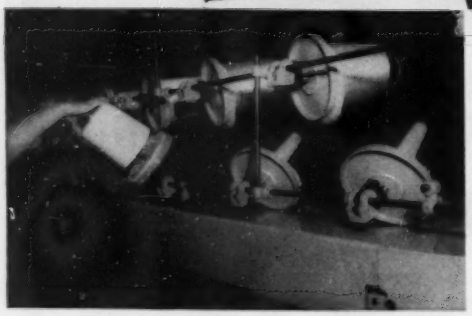
# FOSTER-MUSCHAMP

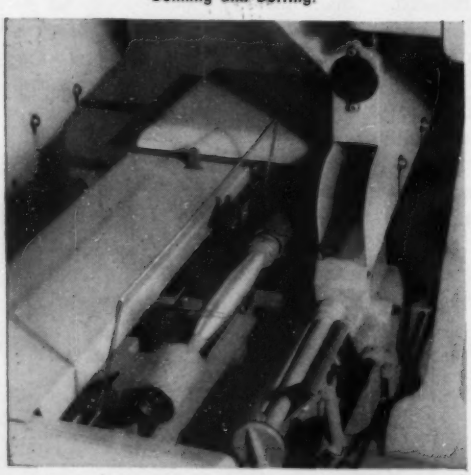
## MODEL 66 Automatic Filling Winder

*(Made in Westfield, Mass., U.S.A.)*

**Operating Cost 1/4¢ PER LB. OF YARN QUILLED**



Magazine Creel. Cone Holder Swings Out for Donning and Doffing.



Empty Bobbin Ready to Move Into Winding Position. Close Delivery Thread Guide and Feelerless Build.

## Compare These Figures with Those for Any Competing Winder

When the magazine creel carries 4 lb. cones and when the machine is equipped with a central bobbin hopper replenisher and automatic pinboarding, or filling box stacker, the operating cost of the Model 66 is as low as ¼¢ per lb. of yarn quilled. Here is how we arrive at this figure on the basis of quilling 20,000 lbs. of 150 denier rayon in 40 hours.

| | *Time per Package* | *Time for 20,000 lbs* |
|---|---|---|
| Creeling in | .25 min. | 1250. min. |
| Piecing up broken ends (1½% breakage) | .11 min. | 550. min. |
| Supplying pinboards | .0488 min. | 244. min. |
| Other duties (5% tot. time) | .024 min. | 120. min. |
| Personal time (5% tot. time) | .024 min. | 120. min. |
| TOTAL TIME (1 operator 40 hrs.) | .4568 min. | 2284. min.* |

*Note there are 2400 minutes in 40 hours.

Standard hourly rate of 1 operator times 40 hrs. divided by 20,000 equals $.0025.

Exceptionally low operating cost is only one of 8 POINTS OF SUPERIORITY which Foster-Muschamp Model 66 offers. Learn about the other 7 points. Write for FOSTER FACTS — Volume 4 — Number 5.

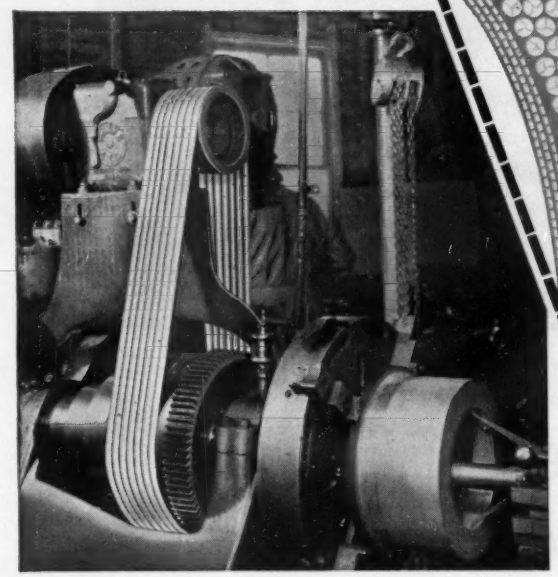
## FOSTER MACHINE COMPANY

*A Winder for Every Textile Purpose*

**WESTFIELD, MASSACHUSETTS, U.S.A.**

**Southern office, Johnston Bldg., Charlotte, N. C.**

# "Secret" of *lower* belt costs is concave sides



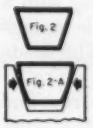
By converting the drive on this lathe to Gates Vulco Ropes, drive slippage was ended. Under heavy load, the Gates Vulco Ropes grip pulley grooves more firmly and pull harder. Management states that now that the lathe can take heavier cuts, they are getting twice as much production as before.

Plants that keep track of costs on drives know this: they get longer wear at *lower cost per year of service* when they specify Gates Vulco Ropes—the V-Belts with *concave sides.*

*Here's WHY concave sides keep belt costs down:*

When the Gates belt is bent around the sheave, the *precisely engineered* concave sides (Fig. 1) fill out and become straight (Fig. 1-A). Thus the belt makes uniform contact with the sides of the pulley.

This full, uniform contact assures *even distribution of wear.* Naturally, *even wear* means *longer wear.* And longer wear cuts belt replacement costs...reduces down time...contributes to profits.




*Prove to yourself the value of concave sides*

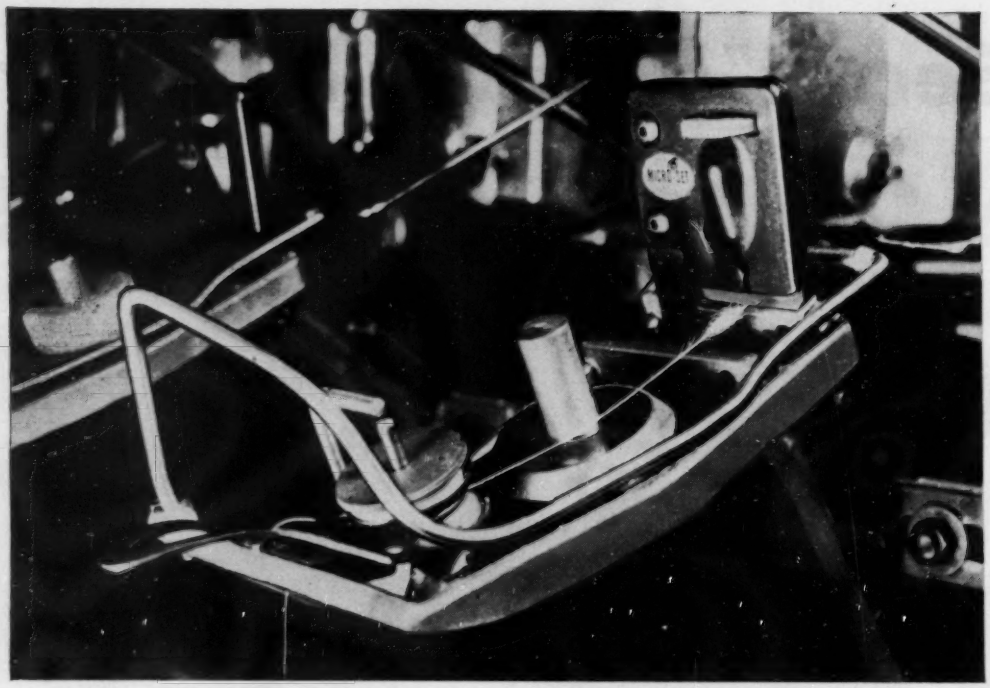
Bend a straight-sided belt (Fig. 2) and feel the sides *bulge out* around the bend. You see immediately that the bulging sides prevent an even fit in the pulley groove (Fig. 2-A). Uneven contact causes faster wear...increases belt replacement costs.

Reduce costs and down time for belt replacements—specify Gates Vulco Rope Drives—the V-Belt with *concave sides* (U.S. Patent 1813698). The Gates Rubber Co., Denver, Colorado—*World's Largest Maker of V-Belts.*

Gates Engineering Offices and Distributor Stocks are located in all industrial centers of the United States and Canada, and in 70 other countries throughout the world.

TPA 46-A

**GATES VULCO ROPE DRIVES**



# Here's a Roto-Coner® feature that assures highest quality yarn

***The micro-set slub catcher adds positive, precision-inspection***

A typical development of Leesona engineering the Micro-Set Slub Catcher on the Roto-Coner Winder clears soft torpedo slubs, hard slubs, piecings and double spinnings from natural or synthetic fibers.

Its extreme sensitivity allows effective slubbing with a wider opening. A sensitive, toggle-action blade swings against the anvil, effectively arresting the slub. This blade can be adjusted to extremely precise settings — up to 80 thousandths of an inch, to handle yarns ranging from fine to coarse counts.

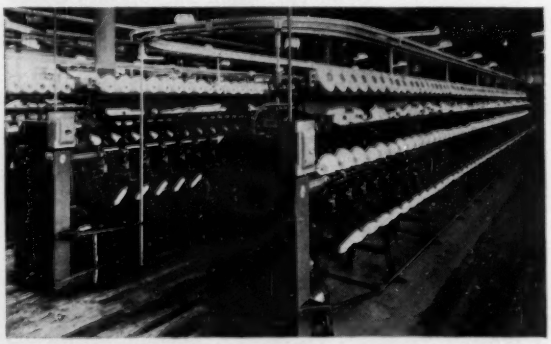
**Other Roto-Coner Advantages**

Operator's duties have been reduced to the simplest, easiest motions. And the quick-doffing arbors save additional time in donning and doffing dye packages.

The smooth action of the famous Rotary Traverse — plus the Roto-Coner's streamlined design — allows little lint to form or collect.

Reciprocating parts are completely eliminated — no traverse cams to grease, adjust or replace. Users report annual costs for repair parts averaging as low as ¼ of 1% of the original investment.

Roto-Coner Winders wind cotton, wool, worsted, spun synthetics or blends. It will pay you to get further facts on how these quiet, easy-to-operate, trouble-free machines can improve your product quality and cut your production time and costs. Write for illustrated bulletin.



**One Of Many Roto-Coner Installations.** Units can be built in various lengths to meet production requirements.

**UNIVERSAL WINDING COMPANY**

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*Agents in every principal textile center throughout the world*

*Winding and Twisting Machinery for Natural and Synthetic Yarns*

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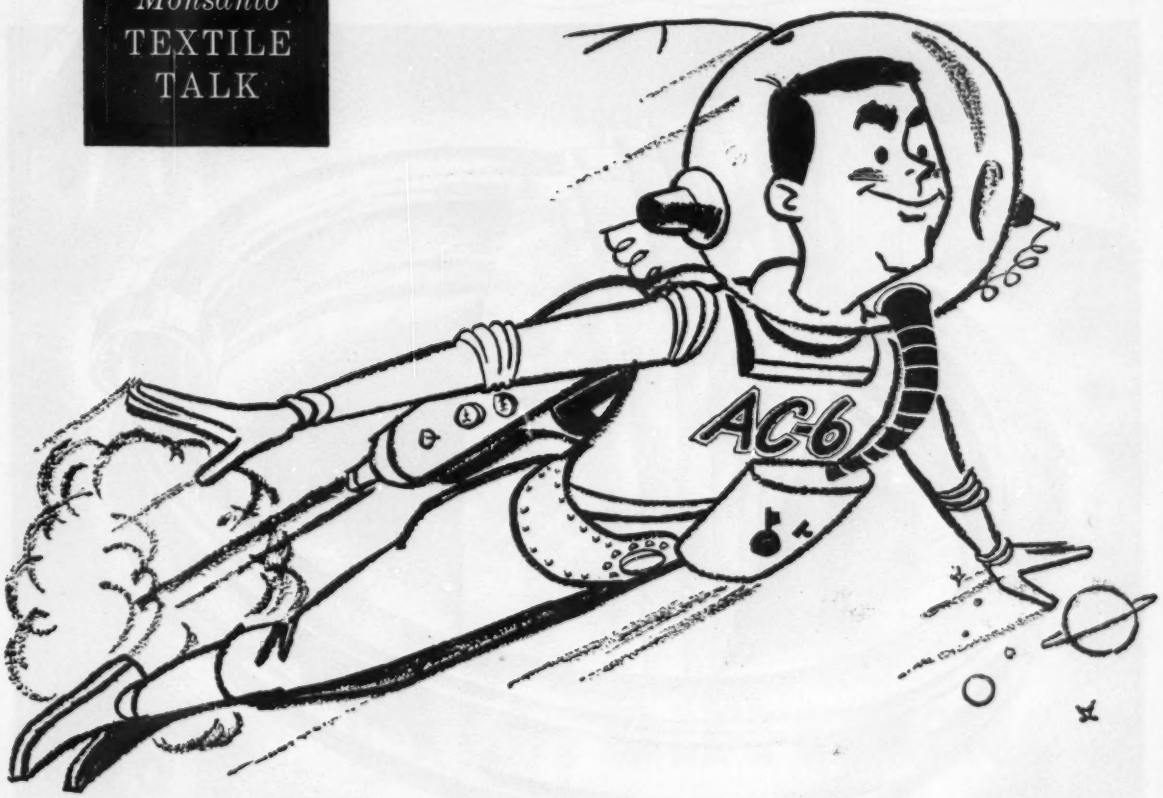
TALK




# You can't beat Monsanto's new catalyst for

# *RAPID CURING!*

## *AC-6 improves resin utilization as much as 25%*

**Never before have resin-finished textiles been cured so fast and efficiently!**

New Catalyst AC-6 is compatible in resin baths with urea formaldehyde, methylated methylol melamine, modified urea resins, and most cationic, anionic and non-ionic softeners and penetrants.

The increased catalytic activity of AC-6 lets you approach complete resin utilization at the lowest possible cure cycle.

This new Monsanto formulation has relatively long bath life. Uniformity of resin application is assured. Catalyst AC-6 also permits full development of fabric properties—with minimum danger of odor formation.

AC-6 brings you all these benefits at low product cost.

In mill runs on cotton fabric, Catalyst AC-6 has demonstrated its ability to outperform other catalytic agents. When conventional catalysts in the bath were replaced by AC-6, identical fabrics showed superior emboss durability, gloss retention and wrinkle recovery.

Mail coupon today for technical bulletin and sample bottle of Catalyst AC-6.

For faster, low-cost curing...

**CATALYST AC-6**

MONSANTO

Monsanto Chemical Company, Plastics Division
Dept. T16, Springfield 2, Mass.

Please send me, without obligation, the technical bulletin on new Catalyst, AC-6, and 8 oz. sample bottle.

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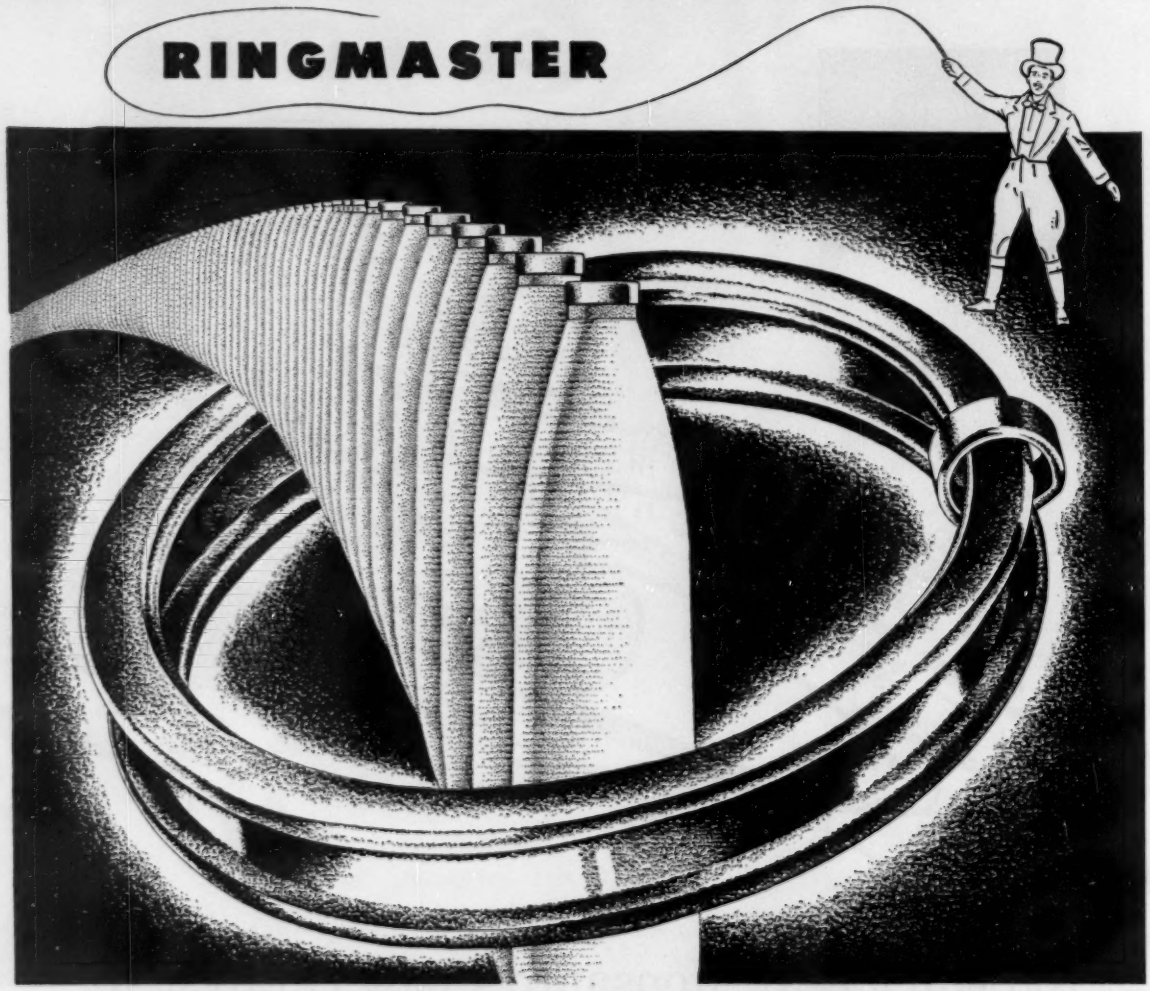
# RINGMASTER



## . . . of more than 12,000,000 smooth-running spindles!

TODAY, Victor Travelers ride the rings on more than 12,000,000 spindles, after 50 years of steadily increasing preference among the nation's ablest millmen. The reasons are clear.

First, consider cost. Since the true measure of a traveler's worth is in the number of pounds of yarn it spins or twists in its lifetime, millmen prefer those that *cost the least per traveler-pound.*

Victor Travelers consistently deliver more pounds of top-quality yarn — under the toughest conditions — at the lowest possible cost per traveler-pound.

Second, consider design. Whether a mill runs conventional fibers, synthetics, or blends, there is always one traveler that is *right* for the work being processed. Victor service saves you valuable time in selecting that *right* traveler — in setting up the smooth-running spinning or twisting desired.

You'll find that a mill-trained Victor Service Engineer has the ability to analyze problems quick ly — to recommend the *right* traveler. Also, whatever its description, you can be sure its available among the more than 15,000 Victor styles and sizes.

One more reason . . . Victor service is prompt as well as dependable. Try it. Just phone, wire, or write the nearest Victor office.

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**VICTOR Ring Travelers**

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# THERE IS A DIFFERENCE!

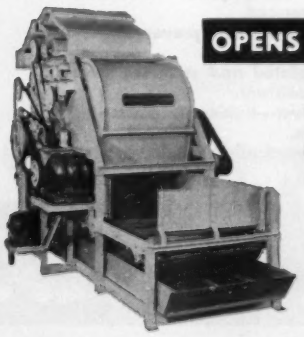
As the pith helmet of some hapless explorer mutely demonstrates, there's a big difference between the caught and the uncaught.

Make it a point not to get caught! Remember, there's a difference between openers, too—a *big* difference, for instance, between the CEN-TENNIAL TEXTILE FIBER OPENER and other openers on the market. CEN-TENNIAL incorporates many unique improvements in their opener. It is far and away the most efficient available today—*and the price is no greater!*

How efficient? Listen to this: West Boylston Manufacturing Company is completely equipped with CEN-TENNIAL TEXTILE FIBER OPENERS. Marked improvement has been noted in spinning efficiency and yarn quality. Overall waste reduction is not less than 1% which is resulting in the saving of hundreds of dollars daily.

Among other representative organizations who are equipped with CEN-TENNIAL TEXTILE FIBER OPENERS are Joanna Mills Co., Mount Vernon—Woodberry Mills, Inc., Spartan Mills (Beaumont and Startex Divisions) and Swift Manufacturing Co.

You, too, can effect such savings in *your* mill.



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*COLUMBUS, GEORGIA*

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with the many exclusive performance features that have made

## ECLIPSE BOBBIN HOLDERS

## THE FAVORITE!

The many exclusive features built into the Eclipse Bobbin Holder have made it the favorite of many leading textile organizations. They have found in actual operation that the Eclipse Bobbin Holder is outstanding in every way, and that the Eclipse reputation for basic quality and goodness is well deserved. If you are interested in modernizing your present plant equipment, you will surely want the finest—and the finest means Eclipse. Investigate today by writing or calling the Eclipse Machine Company direct.

### These Features Mean Eclipse Superiority

1. Completely replaces wooden skewers.
2. Ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
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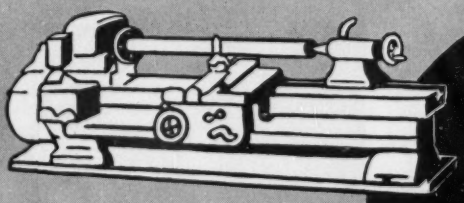
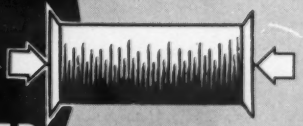
# WE TOOK THE LATHE PRINCIPLE AND APPLIED IT TO WINDING

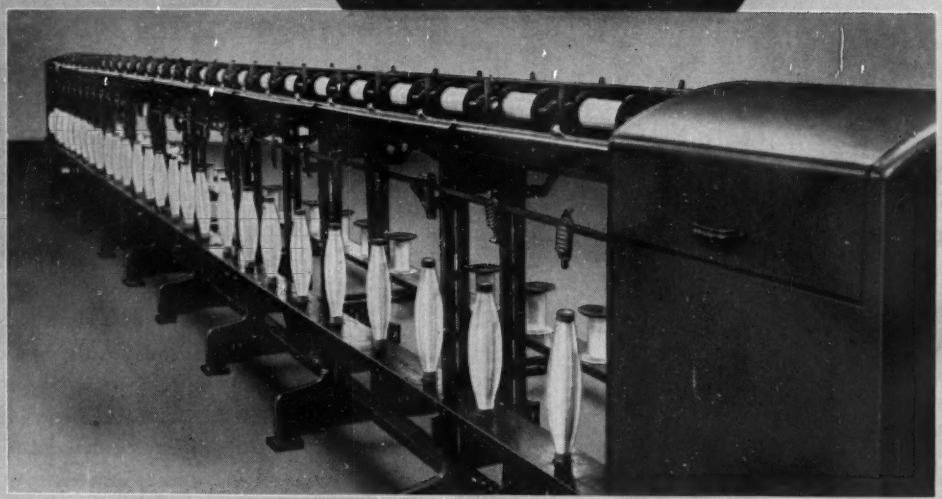


RESULT...

THE NEW *Fletcher*

SPEEDEX WINDER





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CONVENTIONAL SPOOLS PRECISION MADE WITH

18 to 600 Winds Per Traverse

BUILDER MOTIONS FOR THESE POPULAR PACKAGES

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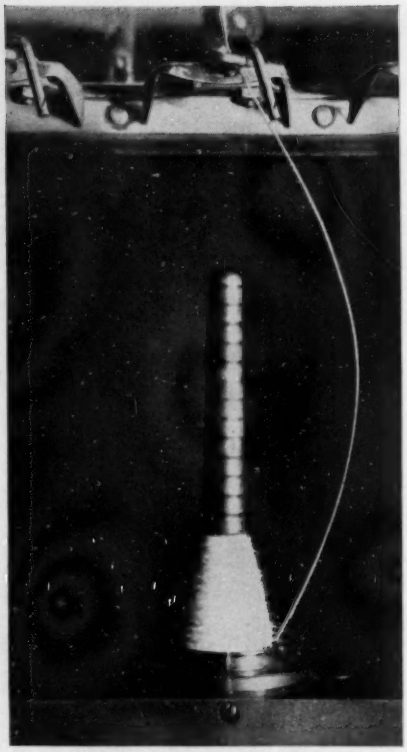
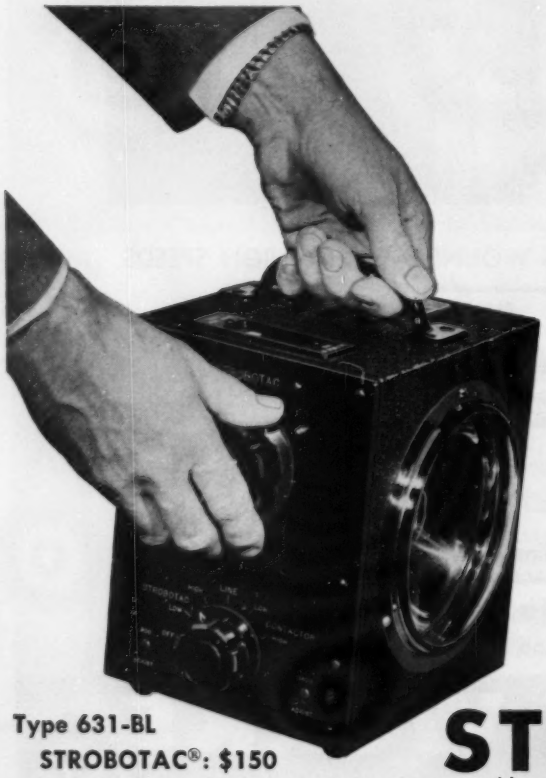
***Southern Representative*—F. W. Warrington, Johnston Bldg., Charlotte, N. C.**

# *Going at 10,400 RPM yet it's "Standing Still!"*



This is *exactly* what a spindle looks like when it's revolving at any speed from 200 to 100,000 rpm, with the STROBOTAC®... General Radio Company's precision electronic stroboscope.

For the maintenance of correct and uniform spindle and traveler speeds the STROBOTAC is ideal. It requires no mechanical or electrical connection to the parts being checked. It is simple to use, portable, lightweight, highly accurate and can be operated by anyone.



As the flashing beam of light from the STROBOTAC is directed at a spindle, the speed knob is turned until the spindle appears to be standing still. The dial on the STROBOTAC then reads directly in rpm. Move to the next spindle and if it too appears to stand still, both are traveling at the same speed; if not, adjust until it is still. That's all there is to it!

For accurate speed checks and s-l-o-w motion studies of spinning and twisting spindles handling cotton, rayon, worsted and silk . . . for speed measurements on rayon buckets...for ring traveler studies...the STROBOTAC has proven invaluable in thousands of mills.

Let us tell you how it can help you.

***Write for the TEXTILE STROBOSCOPE BULLETIN***

**Type 631-BL STROBOTAC®: $150**

# STROBOTAC®

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# 15/3 NYLON YARN

## THAT CAN BE THROWN FOR

- **MORE ELASTICITY**
- **GREATER RECOVERABILITY**
- **LESS SNAGGING**
- **SUBDUED LUSTRE**

Out of Chemstrand research comes a new and dramatic advance in nylon . . . *a 15 denier 3 filament yarn for throwing!* The advantages in appearance and performance are particularly important to hosiery and tricot knitters. Here's why:

Because it can be thrown, Chemstrand's 15/3 means increased elasticity . . . for smoother fit. It means more uniform recoverability . . . for greater shape retention. It means less snagging . . . for longer wear. It means subdued lustre . . . for today's prized look in hosiery. It's a yarn that will also find uses in stretch type fabrics.

15/3 is another example of how Chemstrand research and development are contributing new and improved nylon yarns to the textile industry. Prove this for yourself. Check the benefits this remarkable new 15/3 nylon yarn can bring to your product. You'll be impressed.

A GREAT NEW YARN DEVELOPMENT FROM CHEMSTRAND NYLON®

*Chemstrand makes only the yarn; America's finest mills and manufacturers do the rest.*

THE CHEMSTRAND CORPORATION, 350 Fifth Ave., N.Y. 1 • Plants: CHEMSTRAND NYLON—Pensacola, Fla. • ACRILAN® ACRYLIC FIBER—Decatur, Ala.

**Today's accurate, uniform blends**

**MAKE MORE PROFITS**

**because of Proctor & Schwartz developments**

Today, improved blending of wool or synthetics is a cost-saving reality in close to a hundred Proctor-equipped mills. For example, the Proctor "Roller Distributor", shown above, first distributes the precision-weighed stock, builds it up in layers, and then breaks it down evenly—keeping variations in fiber distribution as low as 1 to 1½%! Regardless of the size of your mill, a Proctor & Schwartz blending system will not only pay for itself quickly in direct labor savings, but also in the production of better yarns at greater profits.

Blending is just one of the many fiber processing operations of every conceivable type which have been pioneered by Proctor & Schwartz—world's largest and most experienced producer of blending machinery. And, as always, every piece of Proctor blending equipment, from the smallest pilot unit to the largest system, comes to you with the assurance of quality performance—*as guaranteed.*

**RECENT REPRINTS OF INTEREST IN THE TEXTILE FIELD**

*Write for your copy of Mr. John H. Senior's recent talk delivered at the Lowell Technical Institute entitled: "Mechanical Blending In a Woolen Mill".*

**PROCTOR & SCHWARTZ EQUIPMENT FOR THE TEXTILE FIELD**

- Automatic Blending Systems
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*Reg. U.S. Pat. Off.

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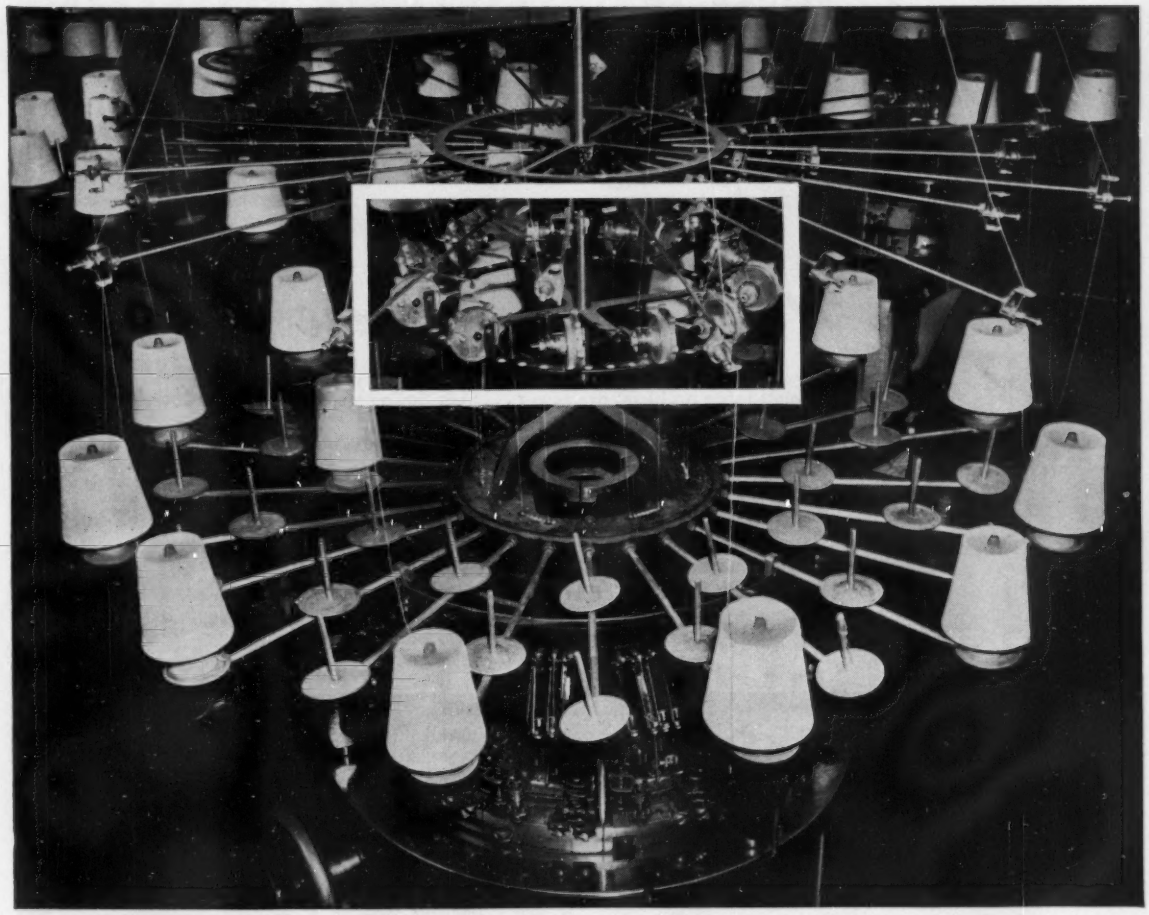

# "ORLON"*–how it's tension-controlled at the Hudson County Knitting Mills

The Hudson County Knitting Mills, who make sweaters of DuPont "Orlon", recently installed Kidde Standard Compensators — one for each yarn feed — on their Jacquard Knitting Machines.

Mr. William A. Zeug of Hudson County Knitting Mills reports, "Since installing these Kidde Compensators we can control fabric widths much more accurately. We have no more uneven stitches due to irregular tension, no more back-winding of cones and less frequent stitch cam adjustment."

Reports like this, while amazing, are not unusual. Because Kidde Compensators, used by more than 500 leading textile mills throughout the nation, cut costs and produce a better product wherever they are installed! They can do the same for *you*. For more information on Kidde Compensators, write Kidde today.

* *A DuPont acrylic fibre*

OTHER APPLICATIONS!

Kidde Standard Compensators, installed on Circular Knitting Machines will also solve tension problems in the running of rubber yarns, stretch-type nylon yarns, and most spun and continuous filament synthetic yarns!

Kidde

*The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.*

**Walter Kidde & Company, Inc.**
**693 Main Street, Belleville 9, New Jersey**

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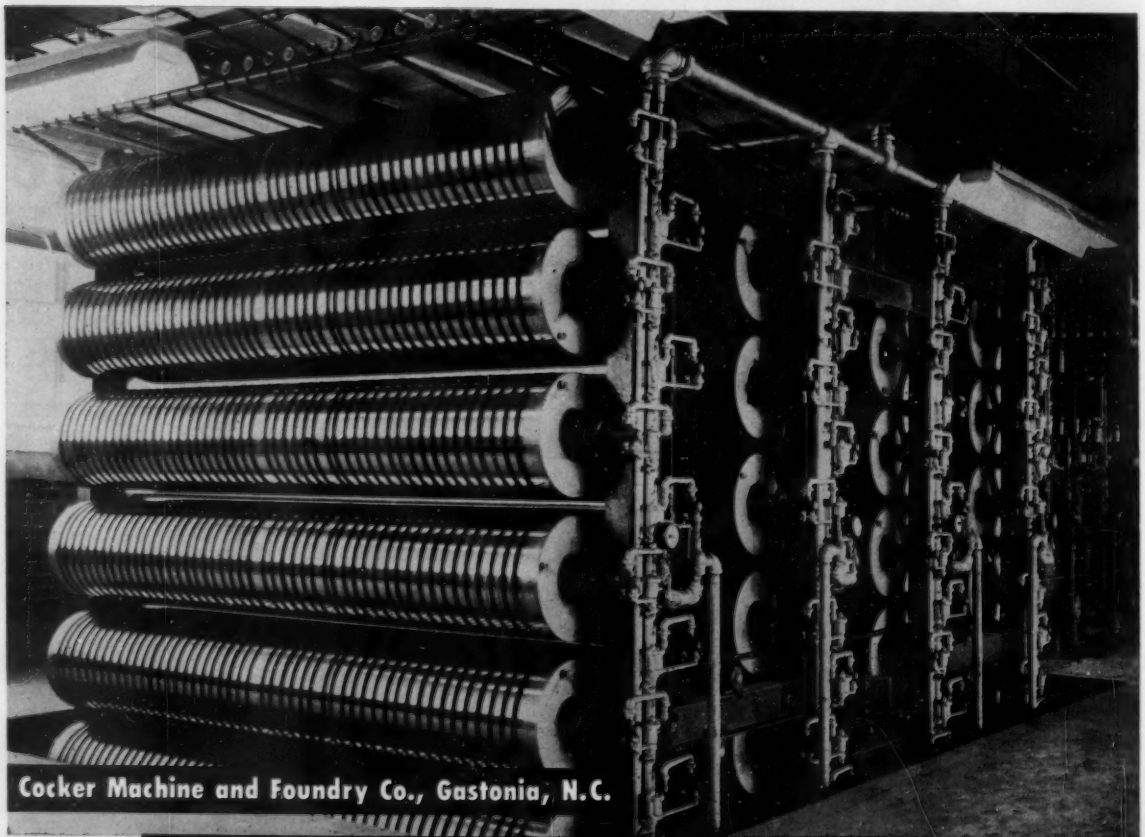
COCKER
AROUND THE WORLD

Shown below:
44 SS Dry Cans,
23" Diameter,
144" Working Face

# Reduces Your Maintenance Troubles

Your maintenance problems are fewer . . . your down time is less . . . with Cocker Equipment. Regardless of your warp preparation requirements, see Cocker, builder of all types of creels, warpers, slashers, and many stainless steel products and special equipment for the textile trade.

The name Cocker is synonymous with quality and service. It is your assurance of better warping.



Cocker Machine and Foundry Co., Gastonia, N.C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

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## a Hillyard FLOOR TREATMENT PLAN Gives You Longer-Lasting Floor Beauty at a LOWER MAINTENANCE COST

## FREE SURVEY OF YOUR MILL FLOORS

Your nearby Hillyard Maintaineer®, a trained floor consultant, will be glad to make a survey of your floors and prepare a specialized floor treatment plan for you. Half a century of Hillyard experience and leadership stand behind his recommendations.

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There is no charge, no obligation for this service.

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**THERE IS NO CHARGE, NO OBLIGATION FOR THIS SERVICE. MAIL THIS COUPON TODAY.**

*"on your staff, not your payroll"*

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Yes! Please have your Maintaineer survey my floors and show how we can reduce maintenance costs.

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## you save time, trouble, and money by specializing on NATIONAL STERLING RING TRAVELERS

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We offer over 18,000 different weights, sizes and styles of ring travelers for twisting and spinning all natural, synthetic, and blended fibres. Our line is complete — includes travelers of steel and bronze, both patented and standard — also special designs to meet your requirements. U. S. Standard (American, Hicks, Wilson, Elliptic) and Wentworth (Double Duty or P.B., Gravity, Gravity Express, Bal Ellipsoid).

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Wherever your plant is located . . . in the South or North . . . National Sterling Ring Travelers are promptly available. Keeping pace with the growth of the textile South, we have a new, larger warehouse in Charlotte and an increased staff of spinning and twisting engineers at your disposal. Complete stocks of ring travelers are carried in Charlotte and Pawtucket. By relying on this one reliable source for travelers you'll simplify your buying and stock records — and save money.

### You get expert engineering service

Our 62 years' experience qualifies us to recommend travelers to perfect your spinning — whatever fibres you are running. Just call us . . . one of our engineers will gladly come to your office for consultation any time.

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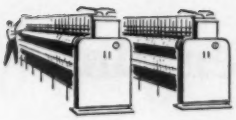
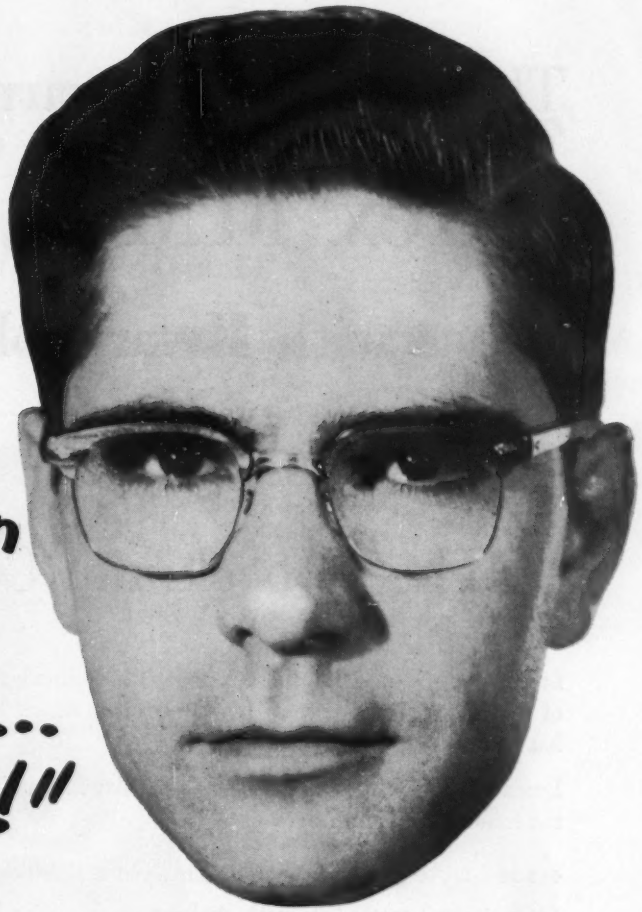
**FOR SPINNING AND TWISTING ALL NATURAL AND SYNTHETIC FIBRES**





# "One suggestion cut 'Seconds' to a minimum... ...costs by 1/3!"

A large South Carolina textile mill ran into lubrication trouble in its weave room—a high rate of cloth spoilage caused by leaking oil. The mill superintendent asked Sinclair Representative W. D. Cawley for his recommendations.

## Oil dripped from bearings

Mr. Cawley reports: "The competitive oil being used in their looms was dripping from bearings onto the cloth and the floors. I suggested Sinclair NO-DRIP #15 because it combines a quality base oil for outstanding lubrication, together with a special soap thickening agent that resists leakage and throw-off.

## Problem solved—lubrication costs cut...

"Since this mill has been using Sinclair NO-DRIP #15, seconds due to cloth spoilage have been cut to a minimum. What's more, lubrication costs have been cut by one-third!"

Why not let a Sinclair Lubrication Engineer help solve your lubrication problem. *There's no obligation.* Contact your local Sinclair office or write Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N.Y

**SINCLAIR LUBRICANTS**

# The long awaited yarn

# Lurex® MM

## (made with Mylar* polyester film)

## now perfected

## by The Dobeckmun Company

Lurex MM is a special purpose metallic yarn—an advanced, improved version of Lurex made by an entirely new process, on which The Dobeckmun Company has been allowed patent coverage.

Lurex MM meets the most exacting Dobeckmun standards in providing for you the following advantages:

- ❖ ❖ resistance to high temperature in dyeing, finishing and laundering
- ❖ ❖ notably increased strength, making possible a far broader range of constructions
- ❖ ❖ greater brilliance, thereby broadening the scope of design potential
- ❖ ❖ substantially increases yield per pound of yarn
- ❖ ❖ permits successful laundering at any washing temperature
- ❖ ❖ may be ironed at any temperature favorable to the fabric with which it is woven
- ❖ ❖ inherent strength, providing adaptability to regular mill equipment for woven or knitted fabrics
- ❖ ❖ adaptability with piece-dye nylons, widening the color range available for automotive and decorative fabrics
- ❖ ❖ offers greatly increased latitude in certain highly specialized dyeing and finishing situations

Lurex MM opens up exceptional possibilities in the development of special yarns for special purposes.

Lurex MM has an important place in your plans. Ask your Dobeckmun representative for further detailed information on this new and notable Dobeckmun development.

***The Dobeckmun Company, Cleveland 1, Ohio • New York: 350 Fifth Ave. • London • Amsterdam***

Boston: 43 Leon St. • Philadelphia: 1801 W. Cheltenham Ave. • Charlotte, N. C.: 221 So. Church St. • Chicago: 330 S. Wells St.
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*Mylar is a registered DuPont Trademark

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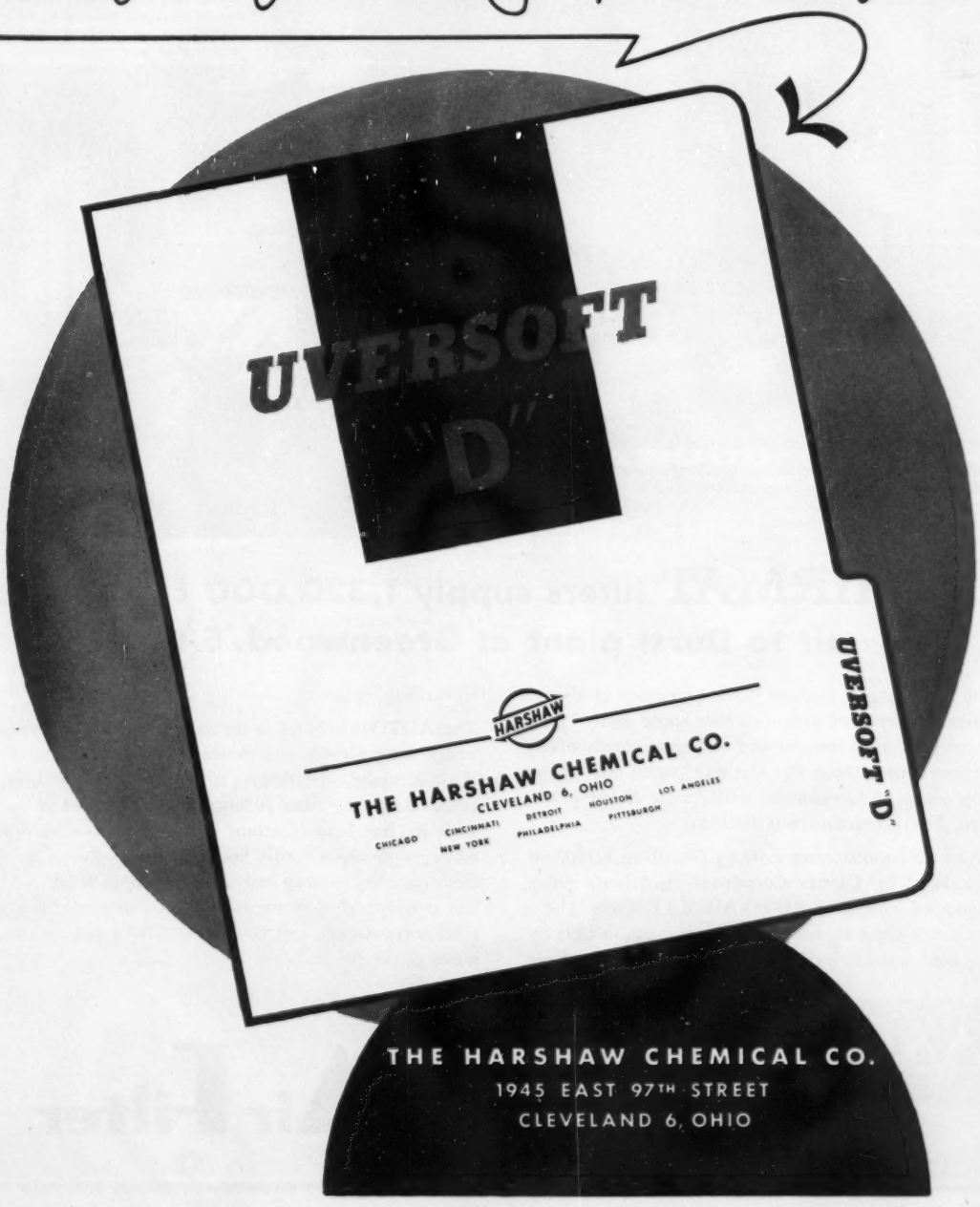
**is an extremely powerful softening agent**

*Send for this folder containing complete technical information*




THE HARSHAW CHEMICAL CO.
1945 EAST 97TH STREET
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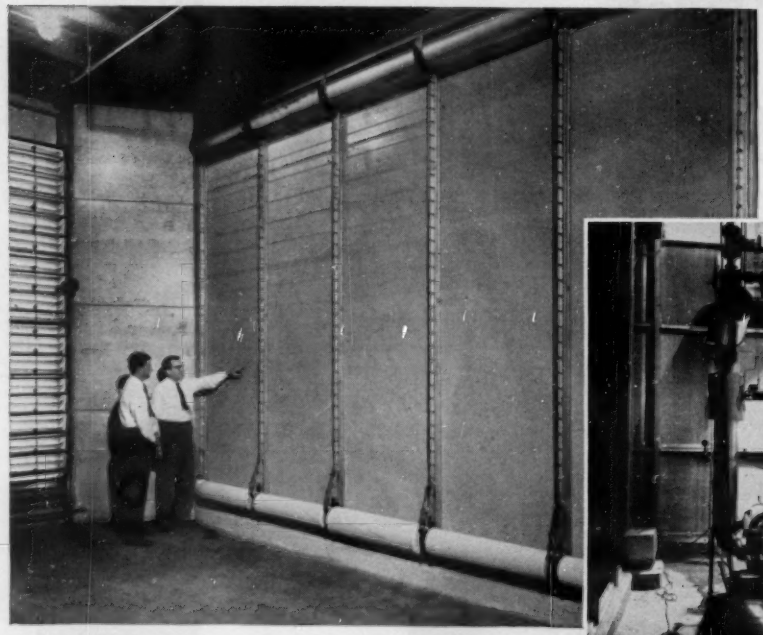
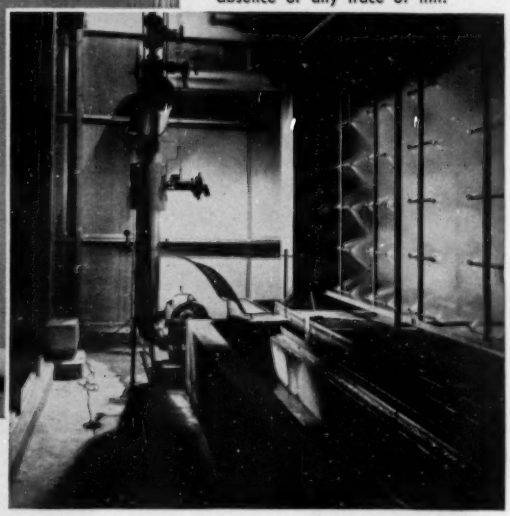
# GREENWOOD MILLS
## Takes LINT *Out of Circulation*



**LINT STOPS HERE.** A typical AUTO-AIRMAT installation at Greenwood Mills' new Durst plant. It's one of eleven providing complete lint protection for the plant's air conditioning system installed by Carrier Corporation.

**BEHIND THE SCENES.** A view of the air washers, protected by AUTO-AIRMAT installation pictured. Note extreme cleanliness of washers and absence of any trace of lint.



## Auto-AIRMAT filters supply 1,320,000 cfm of clean air to Durst plant at Greenwood, S.C.

A plant producing a million yards of cotton cloth per week stirs up plenty of lint—lint that could easily "gum up" air conditioning systems and add many costly hours of overtime maintenance. But lint was "voted out" at the planning stage of Greenwood Mills' new Durst plant. Complete lint protection was built-in.

All eleven air conditioning systems (totalling 1,320,000 cfm) installed by Carrier Corporation's Atlanta office were equipped with AAF AUTO-AIRMAT filters. These automatic, self-cleaning filters protect the air washers by cleaning both outside intake air and the re-circulated air to carding, spinning, weaving and cloth rooms.

The AUTO-AIRMAT is the *only* filter that removes lint fibers from the air and cleans itself automatically! The Airmat media, installed in roll form at top of unit, becomes a moving filter curtain that is re-rolled at bottom with its lint load. Curtain movement is entirely automatic, with clean media being introduced only in sufficient quantity to keep resistance at proper level. And the lint is wrapped up in the roll for easy disposal! For complete information, call your local AAF representative or write direct for Bulletin 234.

AAF herman nelson

**American Air Filter**
COMPANY, INC.

American Air Filter of Canada, Ltd., Montreal, P. Q. • 275 Central Avenue, Louisville 8, Kentucky

**Wellman Combing Company, Johnsonville, South Carolina**
This plant, the first wool processing plant in the Southeast, and owned by Nichols and Company, Inc. of Boston, the largest wool treatment concern in the country, recently went into production. It has a capacity of 20 million pounds of grease wool per year, and is planned for enlargement to four times that capacity.

**LOCKWOOD GREENE PROJECTS IN . . . . .**

# WOOL PROCESSING

Lockwood Greene's work, originating in 1832 with the design of textile mills, amounting to a present total of around one billion dollars in value, now includes the first two wool processing plants in the Southeast, here shown, for the world's two largest wool processing firms.

Continuous management services from site selection to plant completion.

**LOCKWOOD GREENE**
ARCHITECTS — ENGINEERS

BOSTON 9, MASS. 40 Central Street
NEW YORK 17, N. Y. 41 East 42nd Street
SPARTANBURG, S. C. Montgomery Building
OVER A CENTURY OF INDUSTRIAL PLANT EXPERIENCE
*BROCHURE AVAILABLE UPON REQUEST*

**Santee River Wool Combing Company, Jamestown, S. C.**
This plant, the second wool processing plant in the South, will have an initial area of 150,000 square feet for the first unit, processing 20 million pounds of wool per year, and is planned for an ultimate expansion to four units. This is the Southern Unit of the Branch River Wool Combing Company of Woonsocket, Rhode Island, owned by Amedee Prouvost of Roubaix, France, one of the two largest wool processing firms in the world.

DOW

# . . . however you buy it, there's *no illusion* to the uniformity of DOW CAUSTIC SODA

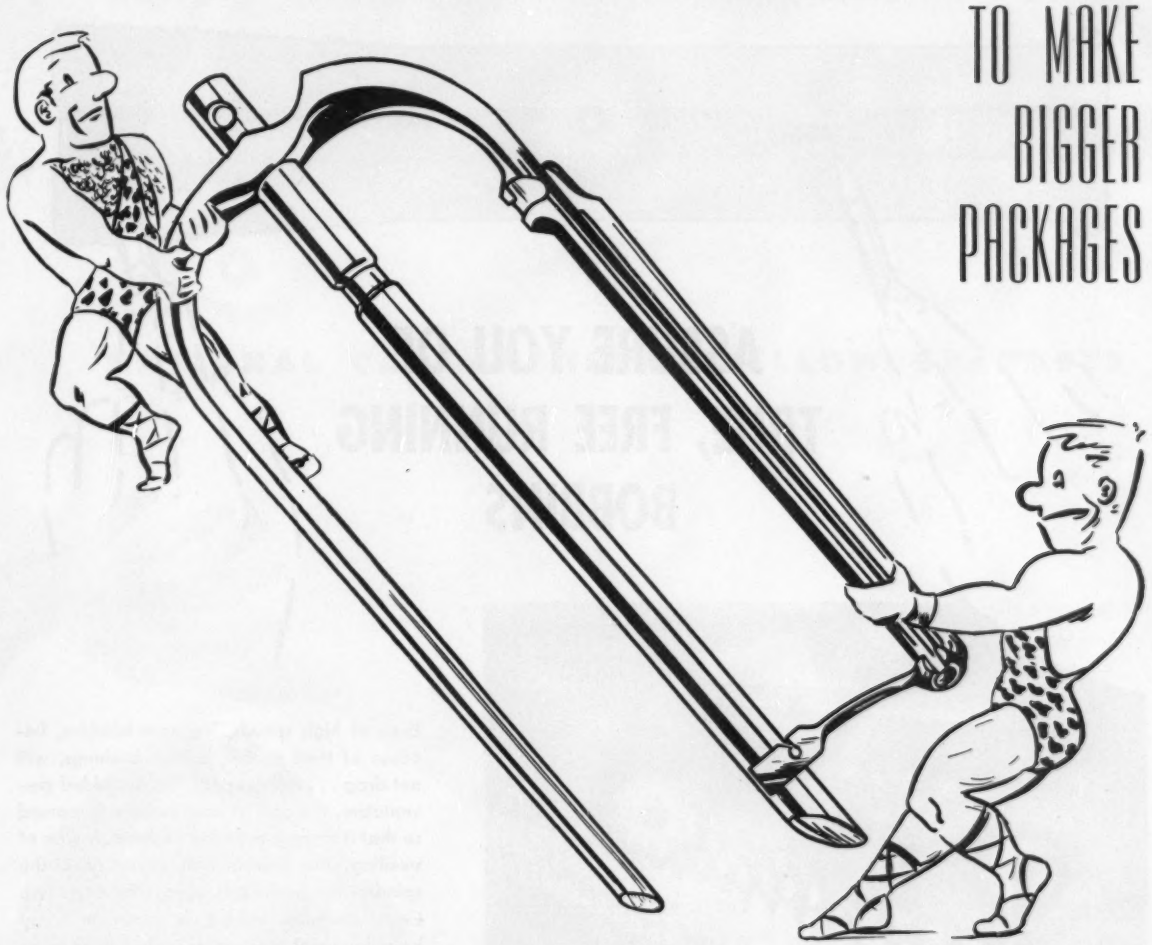
Sure—take a second look. The only *illusion* you see is the circles surrounding these samples of Dow's uniform caustic flake. Standard, ground or fines—each form is *uniform in size and quality.*

Dealing with Dow reduces all your caustic problems to pretty small size. You get the benefits of Dow's *multiplant production facilities* . . . of Dow's flexible, far-flung *distribution network* . . . of Dow's experienced, helpful *technical service* people, who can often point out surprising *savings.*

Hundreds of industrial caustic users, large and small, depend on Dow to fill their needs. Why not try this simple formula for complete caustic soda satisfaction? There's no illusion . . . or disillusion . . . when you "Get it from Dow". THE DOW CHEMICAL COMPANY, Midland, Michigan.

*you can depend on DOW CHEMICALS* DOW

# WE S-T-R-E-T-C-H YOUR FLYERS TO MAKE BIGGER PACKAGES



Ideal has discovered a practical and inexpensive way to convert your present 9 x 4½ flyers into 10 x 4½ or 10 x 5 flyers . . . thereby enabling you to produce larger packages for a minimum cash outlay. Ideal will also provide pressers to match these new sizes.

This is an addition to Ideal's famous money-saving Flyer Repair Service which includes:

- **Straightening noses**
- **Gauging slots**
- **Blocking flyers and pressers**
- **Rebuilding worn parts of flyers to give extra rigidity**
- **Selecto-Speed* balancing for your operating speed**
- **Your choice of 4 finishes**

  **Natural**

  **Bright (highly polished)**

  **RCK (Black)**

  **Goldflyer** . . . the super-smooth finish that eliminates tagging in noses, eyes, and slots and prevents choking-up of hollow legs.**

Write, call, or wire for full information.

*Patented **Trade Name

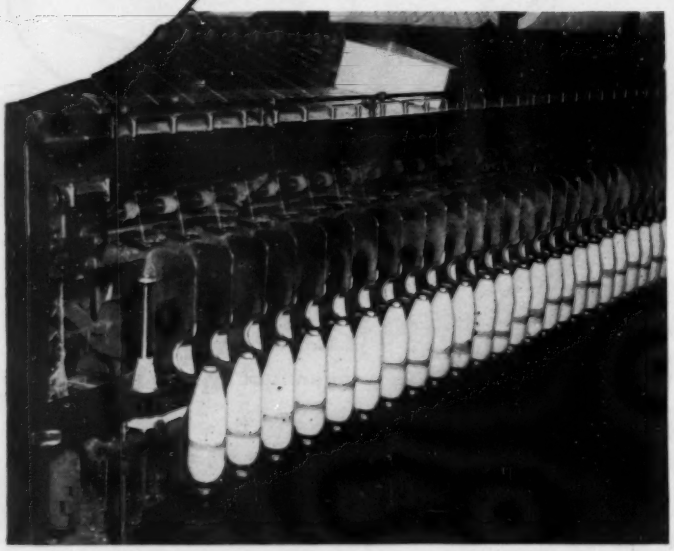
**Ideal Machine Shops, Inc.**

**Bessemer City, N. C.**

**30th Year of Continuous Service to Textile Mills**

# These BUILT-IN Brass Bushings

## ASSURE YOU OF TRUE, FREE RUNNING BOBBINS



Even at high speeds, Vermont bobbins, because of their unique built-in bushings, will not drag . . . will not pull! As an added preventative, the core of each bobbin is reamed so that if there is even the slightest degree of swelling, the bobbin will never grab the spindle—the bushing is always free running. Every Vermont bobbin is given a 7-day baked enamel cure which seals it from moisture, prevents swelling, and assures an always-smooth running surface for the fabric. Keep your PRODUCTION HIGH . . . keep your replacements COSTS LOW . . . with VERMONT spools and bobbins, made to your specifications!

**VERMONT SPOOLS AND BOBBINS KEEP PRODUCTION HIGH**

Contact your nearest VERMONT SPOOL & BOBBIN representative. He can explain to you how easily and inexpensively you can have your specific needs filled to order . . . to your exact requirements.

***5 Features You Want***

- **Longer Life**
- **True, Free-Running**
- **Brass Bushings**
- **Skilled Workmanship**
- **Competitive Price**

Represented in the East by Atkinson, Haserick & Co., Boston 6, Mass., and Watson & Desmond, P. O. Box 1954, Charlotte, N. C.

**Vermont SPOOL AND BOBBIN CO.**

234 SO. CHAMPLAIN ST. — BURLINGTON, VERMONT — *SUPERIOR SPOOLS AND BOBBINS SINCE 1906*

# *Exceptional fastness under the sun!*

## NATIONAL CARBANTHRENE® YELLOW 3R PASTE

One glance at the shade card tells you that this National anthraquinone vat is an exceptionally light-fast yellow . . . even in pastel shades. Under the Fade-O-Meter it rates "Very Good to Excellent" in light to heavy shades. Rates "Excellent" for wash fastness, too. In fact, its exceptional all-around fastness makes it a natural for fabrics that will be subjected to sun and weather, severe laundering and hard usage.

NATIONAL CARBANTHRENE YELLOW 3R PASTE can be dyed by all the usual dyeing procedures in all types of dyeing equipment. It is unaffected by the presence of metals in the dye bath, little affected by resin finishes or rubberizing.

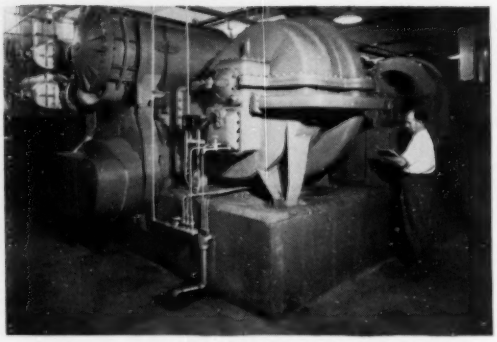
Get in touch with our nearest office for your shade card (Bulletin #384), working sample and price.

**NATIONAL ANILINE DIVISION**
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Boston Providence Philadelphia Chicago San Francisco
Portland, Ore. Greensboro Charlotte Richmond Atlanta
Los Angeles Columbus, Ga. New Orleans Chattanooga Toronto

Allied Chemical

# GREENWOOD MILLS REFRIGERATES WITH A CARRIER CENTRIFUGAL



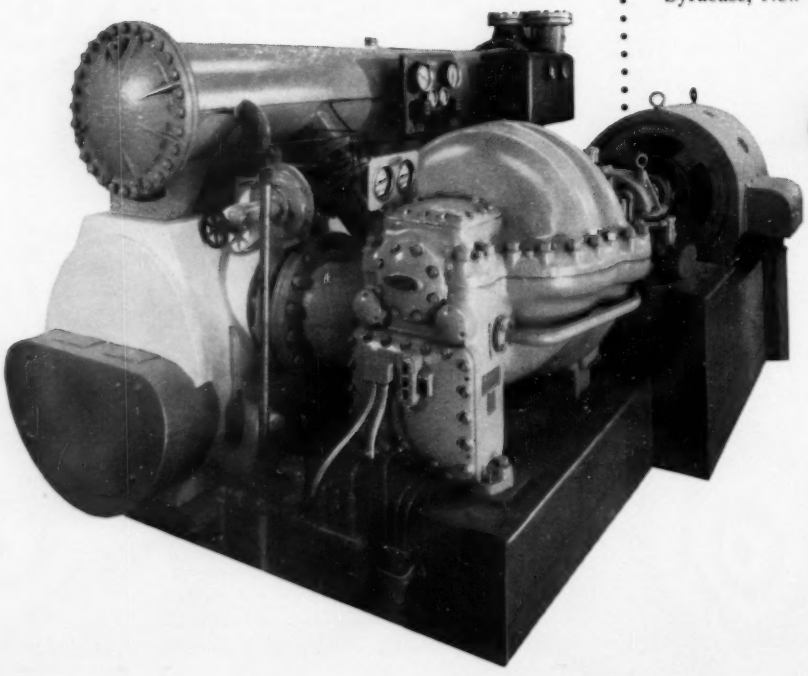
The Harris plant of Greenwood Mills is 100 per cent Carrier air conditioned. Cooling for the system is provided by a single Carrier Centrifugal Refrigerating Machine of 1000-ton capacity.

Carrier Centrifugals serve dependably—often around the clock—in many other mills, including Deering Milliken, Stonecutter, Spindale and Robbins Mills.

Carrier developed the first centrifugal refrigerating machine in 1922. Carrier has built more of them —by far—than all other makers combined.

For unbeatable performance, why not insist on Carrier Centrifugal Refrigeration for *your* mill? It can serve dependably as the heart of *any* air conditioning system. Carrier Centrifugals are available in many sizes from 100 to 4000 tons cooling capacity.

Make use of our experience and assistance. Call your nearest Carrier office. Or write us direct for our free catalog—"Carrier Centrifugal Refrigerating Machines." Carrier Corporation, Syracuse, New York.



**Carrier**

**air conditioning**

**refrigeration**

**industrial heating**

# News in Brief

**ACMA President Scores USDA Crop "Guesstimates."** Erratic cotton crop reporting on the part of the U. S. Department of Agriculture was termed "another evil that has possibly beset some of us," by T. Holmes Floyd, retiring president of the Alabama Cotton Manufacturers Association. Crop reporting has been a service of the USDA for forty years. During twelve of these years the estimate varied less than 4 per cent from August through December, and was between 4 and 12 per cent for sixteen other years. However, for the other twelve years the deviation was greater than 12 per cent. The report last September was extremely inaccurate. Underestimates during heavy movement of the crop resulted in a small loan entry, which contributed to the present unhealthy market situation. Private crop reporting was considerably more accurate, and at no cost to the taxpayer. Inaccuracies such as occurred in the estimates for 1951 and 1954 have caused cotton shippers to refer to the USDA's reports as "guesstimates." Mr. Floyd relayed a trade opinion that the August and September report should be eliminated if the USDA can not give a better performance than it did in 1954.

**New English Worsted Drafting System.** The new Jeremiah Ambler, Ltd., worsted mill at Peterlee, England, is using a standard cotton high-speed spinning frame with a worsted draft arrangement fitted on top. The device, still in the experimental stage, is claimed to challenge the American long draft system. In this mill, the three operations of pin drafting, roving, and spinning take the place of the eight operations of gilling, first and second drawing, weightbox, finishing, reducing, roving, and spinning in the company's other mills.

*Photo courtesy "The Clothmaker," Clinton-Lydia Cotton Mills*

## Aiding in Fight Against Lowered Tariffs

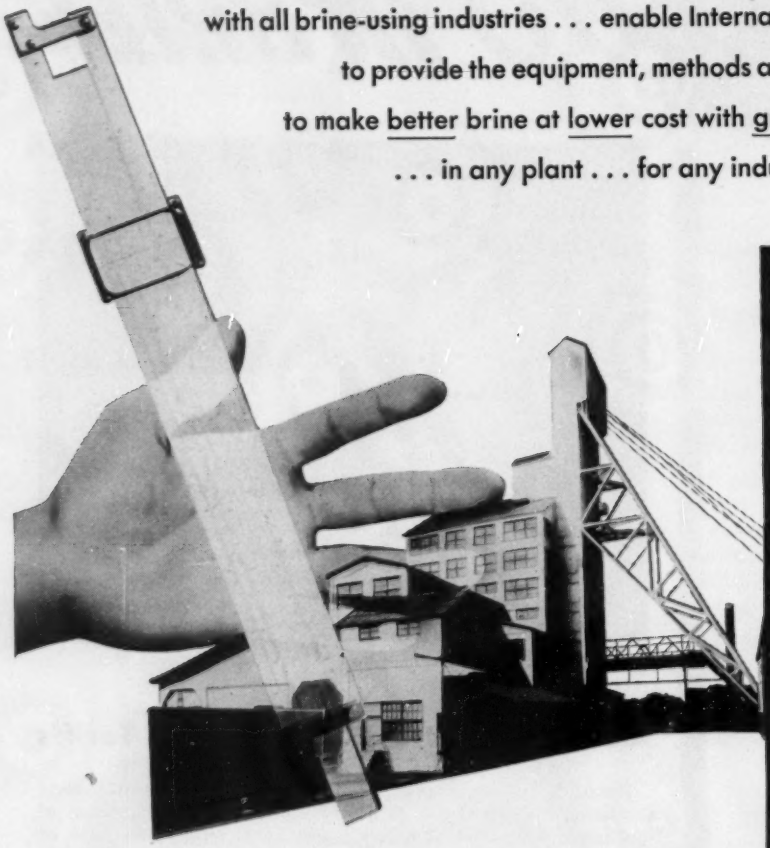
Hundreds of employees of Clinton and Lydia Cotton Mills in Clinton, S. C., wrote Senators Thurmond and Johnston supporting them in their efforts to keep protective tariffs and save American mill jobs.

In the photo above are John Hawkins (Lydia Weaving) and daughters Dianne and Brenda who handled the mailing of post cards to save the time of employees. The girls are holding two giant post cards sent to the senators; the signatures of many more Clinton-Lydia employees appear on the backs of these cards.

**To Avoid Technical Terms in Hosiery Promotion.** DuPont's new hosiery promotion and merchandising program to the ladies will bypass the confusing "gauge" and "denier" specifications; instead will use terms that milady and sales clerks more clearly understand: Evening Sheers [10 or 12 denier] for the ultimate in gossamer loveliness; Dress Sheers [15 denier] for daytime glamour; Walking Sheers [30 denier] for

# BRINE HEADQUARTERS

The great mines . . . the refineries . . . the years of teamwork with all brine-using industries . . . enable International to provide the equipment, methods and know-how to make better brine at lower cost with greater efficiency . . . in any plant . . . for any industry.



**From Sterling Rock Salt or Evaporated Salt**

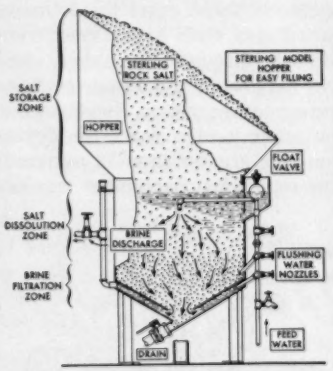
## BRINE, AUTOMATICALLY MADE
## . . . ALWAYS SATURATED
## . . . PIPED TO ALL POINTS OF USE

For consultation without obligation, with a qualified International Industrial Engineer, write . . .

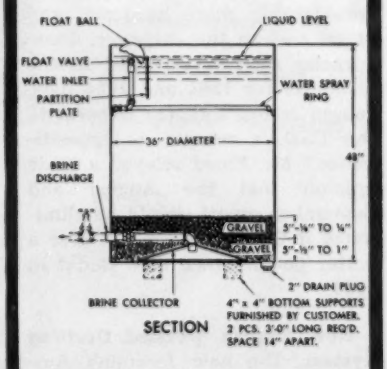
**INTERNATIONAL SALT COMPANY, INC.**
**INDUSTRIAL DIVISION • SCRANTON 2, PA.**

**SALES OFFICES:** Atlanta, Ga. • Chicago, Ill. • New Orleans, La. • Baltimore, Md. Boston, Mass. • Detroit, Mich. • St. Louis, Mo. • Newark, N. J. • Buffalo, N. Y. • New York, N. Y. Cincinnati, O. • Cleveland, O. • Philadelphia, Pa. • Pittsburgh, Pa. • Richmond, Va.
**ENGINEERING OFFICES:** Atlanta, Ga. • Chicago, Ill. • Buffalo, N. Y.

**THE STERLING MODEL**
**LIXATE ROCK SALT DISSOLVER**




**THE STERLING**
**EVAPORATED SALT DISSOLVER**




SECTION

sports and shopping. The general theme is to encourage the ladies to wear the right stocking for each occasion. The promotion will appear as advertisements in leading general publications *(Life)* and

those directed to women of all ages *(Charm, Vogue)*. Promotion by individual stores and hosiery mills need not eliminate "gauge" and "denier" where they are considered essential in advertising, but the suggestion is made that the technical terms be subordinated to the more descriptive ones.

**Surplus Uniforms to Japan.** The U. S. Army Far Eastern Forces have given 100,000 obsolete wool uniforms to the Japanese Ground Self-Defense Force, the army to-be. Another 250,000 uniforms are scheduled to be given later. The gift has distressed the Japanese wool textile industry, which has lost a $7.5 million per year business as long as the uniforms last.

**Employer Must Give Wage Rates to Union.** U. S. Supreme Court has upheld a lower court ruling directing Whitin Machine Works to comply with union request to examine wage records of individual employees for whom the union bargains. [Previous story: TEXTILE INDUSTRIES for March, 1955, p. 75.]

**Sewage Law Passed in North Carolina.** The North Carolina Legislature has enacted a measure

## News in Brief

making it illegal to dump untreated sewage in the Haw River or any of its tributaries after January 1, 1960. Measure was opposed by representatives from Greensboro and Burlington, termed biggest sources of pollution.

**Electrical Standardization Proposed.** The Textile Subcommittee of the American Institute of Electrical Engineers will sponsor a conference at the New Ocean House, Swampscott, Mass., on June 30, to discuss proposed recommended practices for the use of electrical devices on textile machinery. Details are available from

## Colorfastness First Consumer Concern, Retailers Say

Colorfastness is the most important question in the minds of consumers when buying soft goods, a nationwide trade survey just completed by American Cyanamid Company reveals.

Asked, "What questions do consumers ask first when buying soft goods," store buyers and merchandise managers checked, "Will it fade?" as the most frequent (29.64%), even ahead of "What is it made of?" (28.56%), or "How much does it cost?" (26.64%). Less than ten per cent checked, "Who manufactures it?" (9.67%).

"A number of other startling revelations were made in answer to our questionnaire, sent to over 33,000 buyers and merchandise managers in U. S. department and specialty stores," J. L. Naylor, manager of the American Cyanamid's Dyestuff Department, said in releasing the survey returns.

"Our response of approximately 10% was very gratifying, especially in view of the depth of many of the questions asked. It makes our survey, so far as we know, the most comprehensive of its kind ever made on color problems at the retail level. We feel we now have a new and accurate picture of prevailing attitudes and understanding about dyes among retailers and the general public."

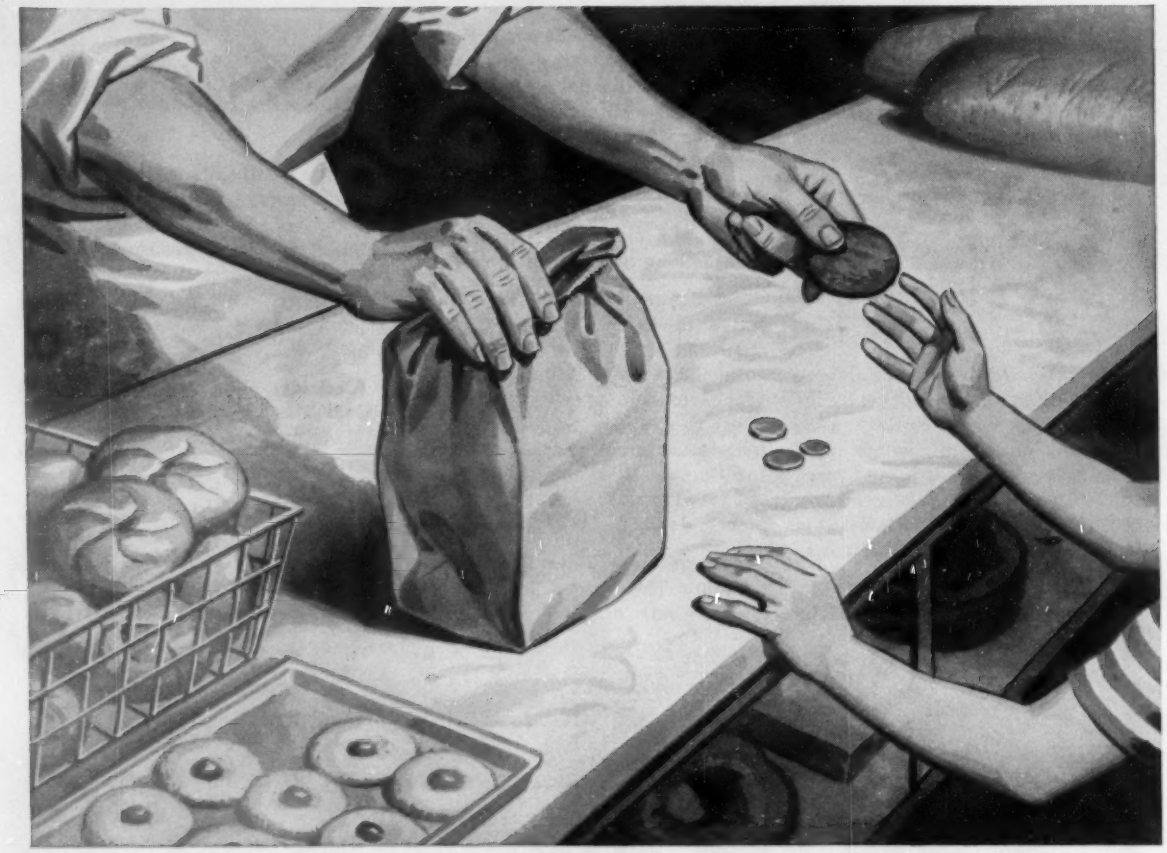
How serious a problem color failure is, to stores, is disclosed in the returns showing color fading, running or rubbing off brings merchandise returns to over 83% of the stores reporting. It is revealed that the degree of this problem varies in specific merchandise categories. Among the worst areas are curtains, draperies, and upholstery, say 38.64% of store respondents; dresses, 39%; blouses, skirts, sportswear, 31%; knitwear, 27.5%; slip covers, bedspreads, 27%; sport shirts, 23.6%; corduroy products, 20%; pajamas, 18%.

Indicating store headaches due to color failure in piece goods was the heavy response on recurring returns in the four fabric classifications listed: rayon, 34.7%; cotton, 25.5%; synthetics, 21.8%; blends, 18.4%.

Retail stores bear the brunt of consumer ill-will in cases of color failure, say 3 out of 4 retailers. Although "manufacturer" was checked by most of the balance, there was a write-in vote of "both" (store and manufacturer) by 12.17%.

The question that was answered by 100% of the respondents dealt with vat-dyed identification by manufacturers. All want the manufacturer of merchandise made of vat-dyed or vat printed fabrics to state in his advertising, tags, mats for store advertising, and display material that the fabrics are dyed with vat colors. An overwhelming percentage of retailers, the survey shows, feel that an extensive public and trade education program on vat dyes would help both store and consumer.

"Perhaps most interesting to us," declared Mr. Naylor, "was the response to the question on the justification for a slightly higher retail price on vat-dyed merchandise. More than 95% of the buyers and merchandise managers queried felt the colorfastness feature important enough to justify the difference in price. Less than 5% checked 'No'."



# A "Baker's Dozen" in Textile Chemicals

It's an old American custom to build and hold business by giving "something extra." And Solvay's textile chemical business has been built on this sound principle.

Solvay not only supplies textile chemicals of the highest quality at the lowest prices, but gives "something extra" by extending its responsibility into the plants of its customers to assure efficient use, handling and storage of all its products.

To give its customers services not ordinarily available, Solvay maintains a separate section of its Technical Service Department devoted exclusively to textiles. This special textile group has years of sound, practical working knowledge and experience in the textile industry. Their services are available without charge not only for the regular handling, storage and use of Solvay textile chemicals, but also to aid in the development of new processes and methods.

In addition, Solvay's local sales offices with their trained and experienced sales representatives give you the close personal attention that best fits your individual requirements—whether you order by the bag or in carload lots.

To get the finest in textile chemicals plus "something extra," be sure to specify Solvay when you place your next order.

SODA ASH
CAUSTIC SODA
LIQUID CHLORINE
SODIUM NITRITE
POTASSIUM CARBONATE
(Calcined and Hydrated)

SOLVAY

**SOLVAY PROCESS DIVISION**
ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

Allied Chemical

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
Houston • New Orleans • New York • Philadelphia • Pittsburgh
St. Louis • Syracuse

Soda Ash • Snowflake® Crystals • Potassium Carbonate • Calcium Chloride • Sodium Bicarbonate
Ammonium Bicarbonate • Cleaning Compounds • Caustic Potash • Sodium Nitrite • Caustic Soda
Ammonium Chloride • Chlorine • Monochlorobenzene • Para-dichlorobenzene • Ortho-dichlorobenzene
Chloroform • Methylene Chloride • Methyl Chloride • Carbon Tetrachloride

Victor F. Sepavich, chairman of the AIEE Textile Subcommittee, Crompton & Knowles Loom Works, Worcester, Mass.

**New Wool Standards.** Changes in the official wool standards proposed by the USDA would add two new grades, and would put the standards on the basis of average fiber diameter, as measured in microns. The proposed grades correspond to those recently adopted for wool top. The new standards would provide specifications for 14 grades, 36s to 80s, inclusive, including two new grades, 54s and 62s.

**New Drafting Systems Require Increased Cleaning.** The majority of South Carolina mills responding to a Southern Textile Association questionnaire agree that increased cleaning is necessary when the newer high draft spinning systems are installed. If they are installed without a vacuum scavenger system, all cleaning must be increased two-fold. If installed with a vacuum scavenger system, only regular cleaning is necessary, except for a stepped-up program of roll scouring, picking, and cleaning drafting zones.

**AATCC Seeks More Research Support.** A corporate membership drive announced recently by the American Association of Textile Chemists and Colorists has as its goal a 50 per cent increase in dues income for the Association's research fund. Present AATCC cor-

porate membership includes 280 firms; additional support by about 200 firms will be sought for this dues revenue increase. The campaign will continue for several years, and the income will be used to expand and improve the AATCC research facilities.

**U. S. Textile Machinery Firms to Exhibit at Brussels.** American textile machinery manufacturers who will display their products at the International Textile Exposition, to be held at Brussels, Belgium, June 25 through July 10, include Crompton & Knowles Loom Works, Holdsworth Gill Screw Co., Universal Winding Co., and Whitin Machine Works.

**Woman Included in New NAWM Officers.** Mrs. Elsie M. Murphy, president of S. Stroock & Co., Inc., has been elected a director of the National Association of Wool Manufacturers, first woman to be so honored in the Association's 90-

year history. Other new officers include Harold J. Walter, Bachmann Uxbridge Worsted Corp., president; and Minot K. Milliken, Deering, Milliken & Co.; Abbot

## News in Brief

Stevens, J. P. Stevens & Co.; J. H. Stursberg, Livingston Worsted Mills; and E. D. Walen, Pacific Mills, vice-presidents.

**NYC Tax Does Not Apply to Out-of-State Mills.** A recent U. S. Supreme Court decision holds that an out-of-state mill which conducts its affairs through a New York selling agent is not taxable under the New York City general business law and is not required to file general business tax returns. The decision is expected to result in large financial savings to mills which sell through New York houses.

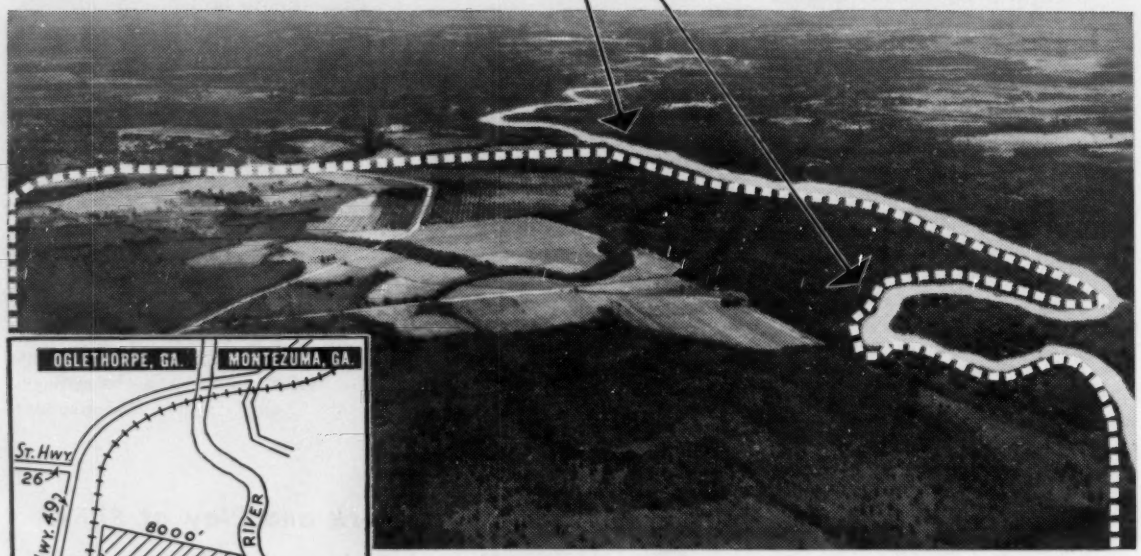
**Fewer Orlon Sweater Seconds.** A dyer reports that seconds in Orlon sweaters have been reduced considerably. When this product

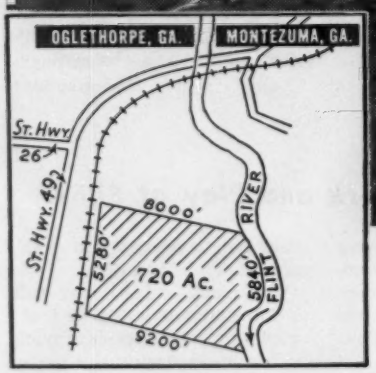
## *Alabamians Work and Play at Biloxi*

The costume ball highlighting the Alabama Cotton Manufacturers Association annual convention in Biloxi this year was an "Important Moments in Your Life" affair, with members and their ladies dressing to commemorate the occasion.

The result—an evening full of fun and fellowship as indicated by the accompanying photos made during the party.

# Here's all the Water You Need...






## for that NEW TEXTILE PLANT!

- 720 level acres located near Montezuma and Oglethorpe, Georgia.
- 5,840-foot frontage on Flint River.
- Minimum flow of 378,000,000 gallons per day at site.
- Also ample underground water supply.
- Fast, dependable freight service to *all* markets via Central of Georgia Railway. All-diesel freight service daily between principal communities of the Southeast.
- Paved road from State Highway 49 to plant site will be provided.
- Population within 25-mile radius is 76,926.

WATER — 378,000,000 gallons a day for production and processing . . . plus many other industrial advantages . . . make this an ideal site for your new textile plant!

And it's smack in the center of the Southeast's ever-growing 22-million consumer market. Overnight, your products will reach any corner of this booming area via Central of Georgia's safe, dependable freight service.

You can draw immediately upon a large reservoir of manpower — willing, intelligent workers who *already* possess skill in textile operations.

TODAY . . . write or call for maps and full details on this prime river site, where *you* can share in southeastern prosperity! Central of Georgia's Industrial Location Specialists will cooperate fully — in strict confidence — in solving your re-location problems.

**FREE** —ask for 32-page brochure describing other river sites in the Southeast.

**Address:**

**Central of Georgia Railway**
**INDUSTRIAL DEVELOPMENT DEPARTMENT**
**Department F**
**501 Rhodes-Haverty Bldg., Atlanta 3, Ga.**

*The Right Way*

CENTRAL OF GEORGIA RAILWAY

was first being dyed, seconds amounted to about 30 per cent, as compared with a current figure of about 5 per cent. The reasons given for the improvement are better yarn manufacturing and dyeing techniques now being used.

**Publisher is Bullish.** From virtually every standpoint, indications are that the business climate will continue to be good through 1955. We can adopt the dynamic approach to that business climate — an approach which leads to success — or we can follow the road to failure . . . By dynamic we mean the method of the progressive manufacturer who makes an excellent product and at the same time advertises and sells it, creating his markets—manufacturing customers as he manufactures a product to sell them. — *Donald M. Hobart, vice-president and director of research, Curtis Publishing Co.*

**Course in Parachute Technology.** A two-week special summer program in parachute technology will be held at the Massachusetts Institute of Technology, June 20 through July 1, under the supervision of Stanley Backer, assistant professor in MIT's Textile Division. The program's prime objective is to review recent advances in

parachute technology which have followed in the wake of high-speed aircraft and guided missile developments. Tuition for the course is $140; no academic credit is offered. Application to attend the course should be made to Office of the Summer Session, Room 7-103, MIT, Cambridge 39, Mass.

**New Method for Evaluating Tire Cord.** A new yarn evaluation method which eliminates plying and the use of adhesive was described by G. D. Mallory, section head in charge of fabric research for the Goodyear Tire & Rubber Co., at a recent meeting of ASTM's tire cord subcommittee. With this method, the fatigue properties of new and unknown yarns can be more easily compared to current and established yarns.

**Silk Through a Worm's Jaundiced Eye.** A Hungarian biologist has found a way to cure jaundice, scourge of the silkworm, through a diet of strawberry leaves soaked in a hydrochloric acid-pepsin solu-

tion. Not only did the diet cure all but about 8 per cent of affected worms, it also increased their cocoon production by 60 to 70 per cent. The silk produced by these vermicular Stakhanovites was better in quality, finer, and up to 400 yards longer than silk from bourgeois works. — *Hungarian News and Information Service.*

**Arbitrator Decides Dispute for Mill Management.** A dispute between the management of the Virginia Woolen Co., Winchester, Va., and the employees of its carding department has been settled in favor of management by a decision of Jacob A. Stein, Washington attorney and independent arbitrator. Sore point with employees was a new work load assignment determined by a firm of industrial engineers employed by the man-

## Cooperative Advertising Fund Proposed to Fight the Bare-Leg Fad

More than 500 full-fashioned hosiery manufacturers have been asked to band together to "fight the bare-leg look" through the establishment of a cooperative advertising fund of up to one million dollars.

A plan calling for payment of two cents per dozen pairs of stockings shipped is included in a 12-page prospectus prepared by Hosiery Fashions, 112 S. 16th St., Philadelphia 2, Pa. The two-year agreement that mill owners are asked to sign stipulates that "this plan will not become effective and no money will be collected until 40 per cent of the productive capacity of the full-fashioned stocking industry has agreed to contribute to the plan."

"Your real competition is the trend toward bare-legs, no stockings at all," the proposal states. "There is nothing wrong with the full-fashioned stocking industry that the women of America can't cure. The one thing that can defeat the bare-leg look is the seam in the full-fashioned stocking."

Hosiery Fashions was established in 1953 and has carried on a national advertising, publicity and public relations program in behalf of full-fashioned stockings. The advertising has appeared in *Vogue, Harper's Bazaar, Glamour, Mademoiselle, Seventeen,* and *Charm.* Trade advertising to manufacturers and retailers backed up this promotion.

The idea of Hosiery Fashions was conceived by William Jenkins Advertising, Inc., Philadelphia, and the plan was developed by them in behalf of the full-fashioned stocking industry with Textile Machine Works underwriting all the costs. The present proposal for industry-wide participation in the program is being made by William Jenkins Advertising, Inc., independent of Textile Machine Works.

A letter from Hosiery Fashions accompanying the proposal explained that the program had been discussed with a cross section of large and small mills and stated that the reaction was so favorable that it was decided to present the plan to the entire full-fashioned stocking industry.

# *Introducing*

## METRO-ATLANTIC'S

# RANEDARE

## highly durable WATER REPELLENTS!

## A New Water Repellent Series Created To Meet Specific Demands!

*For Synthetics:* — **RANEDARE R** Designed specifically for synthetic fabrics for use with crease resistant and stabilizing resins to provide durable water repellency, shrinkage control, wrinkle and spot resistant effects. Easily diluted in cold water. Low foam, has good running properties. Results are durable to dry cleaning and washing. Ranedare has an extremely high shelf life and is very compatible with other resins.

*For Cottons:* — **RANEDARE C** Especially for use on cotton, to produce high and durable water repellency. Durable to repeated washings or dry cleanings. Very economical, easily diluted. Has high shelf life. Runs exceptionally well with low foam.

Here are three new ideas — new chemical compounds available for the first time after many plant trials and many thousands of test yards run to prove quality and efficiency.

*A Silicone for Synthetics:* — **RANEDARE S** (Formulated from General Electric Wonder Silicone Dri-Film). Top durability to dry cleaning, even on velvets and sheer fabrics where other durable water repellents fail. High fastness to consecutive washings. Also works well on cottons and wools.

*Complete Technical Data — Trial Runs — On Request*

## METRO-ATLANTIC INC.

MANUFACTURERS OF CHEMICALS, DYES AND INTERMEDIATES

**CENTREDALE 11, RHODE ISLAND**

OFFICES AND WAREHOUSES: GREENVILLE, S. C., PATERSON, N. J. • CANADIAN BRANCH GRANBY, QUEBEC

IMPORTED DYESTUFF SPECIALTIES: FARBWERKE HOECHST AG, WEST GERMANY

agement. The question arbitrated was, "Is the card tender and utility man assignment to six [woolen] cards on the improved basis an 'unreasonable assignment?'" In announcing his negative decision, the arbitrator stated that " . . . the basic problem may be a possible misunderstanding on the part of the employees about the distinction between work assignments and work load. The company's policy is to require only that a full day's work be done and the company does not require (as was contended by the union) that six cards be kept running under all conditions."

**Seal of Approval for Elastic Opposed.** The Underwear Institute has voiced strong objection to the adoption by the Elastic Manufacturers Institute of a "Seal of Approval" for elastic webbing used in underwear. Objection is based on the UI's claim that minimum standards for award of the Seal are not high enough to insure a

serviceable piece of merchandise. UI agrees with the statement of a manufacturer of rubber thread that a number of members of the EMI make web for cheaper underwear and sell it on a price basis only, and that it appears that the standards are set low enough to take some of these elastic garments under the wing of the label.

**Lower Air Cargo Rates from Paris.** Importers of fabrics and wearing apparel from Paris will benefit from new specific commodity rates on 50-lb or over shipments recently announced by Air Express International. Present airline rate for a 50-lb shipment of these commodities is $58.50, while the new AEI rate for a 50-lb shipment of cloth is $40.00, a saving of more than 31 per cent.

**New Boom Under Way.** Highlights from a recent statement by Secretary of Commerce Weeks: Gross national product in first quarter 1955 higher than in any other first quarter in our history . . . . disposable personal income at a record annual rate . . . . consumer expenditures up about 5 per cent over first quarter 1954 . . . . non-

farm dwelling units started at 1.4 million annual rate . . . . current business expansion is increasingly broadly based . . . . general advances in various types of individual and business incomes, in business sales, and in the flow of new orders.

**CCC to Sell Part of Cotton Inventory.** The USDA's Commodity Credit Corp. will sell part of its inventory stocks of cotton to meet the needs of domestic mills and exporters for qualities of cotton currently in short supply. The CCC

## News in Brief

inventory includes about 1,750,000 bales, of which 1,000,000 bales have been "set aside." The cotton will be offered for sale under competitive bidding, for unrestricted use. Bidders may make offers on any cotton in stock, but the "set aside" figure must be maintained. A catalog showing the number of bales available, by qualities and warehouses, may be obtained for a nominal sum from the New Orleans CSS Commodity Office, 120 Marais St., New Orleans 16, La.

**Textilist Takes Taft to Task on Tariff.** Basic points of difference between the textile industry and the Committee for a National Trade Policy, headed by Charles P. Taft, are brought out in correspondence recently made public. Taft, in letters to several mill men,

## Details on the Australian Wool Research Conference

The International Wool Textile Research Conference (first announced in TI for June, 1954, page 136) to be held in Australia this year during the period August 22-September 9, will open in Sydney on Monday, August 22. On Friday August 26, delegates will leave by road for Geelong, the conference being continued there from Wednesday, Aug. 31, until Friday, Sept. 2. The final sessions will be held in Melbourne from Friday, Sept. 2 until Friday, Sept. 9.

A wide range of topics will be discussed, and the preliminary program of the scientific sessions is as follows:

(a) *The Chemistry and Biochemistry of Proteins — The Structure of Keratin and the Wool Fiber*
The molecular structure of wool and other proteins; chemical reactivity of wool keratin and the preparation of wool dispersions; the estimation of amino acids in wool; enzyme chemistry — Biosynthesis of peptides and proteins; preparation and properties of peptides; physical chemistry of protein solutions; histology of wool and skin, crimp and other properties in relation to the structure of wool.

(b) *Wool Physics and Fiber Assemblies*
The mechanical and electrical properties of wool; the mechanical properties of fiber assemblies; heat, moisture and time relations in wool; mathematical theories of viscoelasticity.

(c) *Wool Technology*
The mechanical processing of wool; the chemical modification of wool; the chemical processing of wool; wool as a textile fiber; sampling and testing of greasy wool, felting properties of wool.

In addition to the scientific meetings in each center, visits will be arranged to universities and the wool textile research laboratories of the Commonwealth Scientific and Industrial Research Organization.

So that the delegates may learn something of the background of the Australian wool industry, the tour from Sydney to Geelong and Melbourne will take in important wool growing areas, research field stations, and other places of interest.

For further information, contact the Officer-in-Charge, Australian Scientific Liaison Office, Bradford Building, 1800 K St., N. W., Washington 6, D. C.

# LIQUIDATING?

*If so contact Comer first. Through the resources and facilities of The Industrial Group, of which Comer is a member, this simple 3-step plan—which has proved highly successful to other mills—is available to you.*

**1 Comer will give you a fair appraisal**

McCanless Mills, Davison, N. C.—Acquired October, 1954; Sold December, 1954. Fast action like this requires experience, coordination and contacts. Let us add you to the list of our satisfied clients.

**2 Comer will buy or liquidate, single pieces or entire properties**

Mandeville Mills No. 1, Carrollton, Ga.—Acquired January, 1954; Sold February, 1955. For 22 years Comer has served the textile industry. In 1954 this experience enabled Comer to sell over $4,000,000.00 worth of machinery.

**3 Comer will relocate industry to your former site**

Mandeville Mills No. 2, Carrollton, Ga.—Acquired January, 1954; Sold May, 1954; A quick call started things moving for this mill. If you're selling, Call Comer first and talk things over.

*If you're selling, we're buying. Write, wire or call now.*

COMER MACHINERY

## Comer Machinery Co.

680 West Peachtree St., Atlanta, Ga., EM. 5682

states his "amazement" at the opposition of the textile industry to H.R. 1, the bill to extend the reciprocal trade act. He describes the flow of foreign-made goods into the United States as "infinitesimal," and argues that by lowering tariffs the United States can prevent allies such as Japan from drifting into the Russian orbit. A reply to Mr. Taft, written by R. D. Hall, secretary-treasurer of Climax Spinning Co., Belmont, N. C., notes errors in his use of statistics and questions the logic of his views. The reply emphasizes that American cotton textile exports are now less than half as large as in 1947, but that imports of cotton goods into this country jumped 14.2 per cent in 1954 compared to 1953, even without a tariff reduction. Mr. Hall points out that Japan is already the world's largest exporter of cotton textiles, and that any further expansion should occur in her natural markets—the deficit textile areas of the world. Commenting on Mr. Taft's reference to Venezuela and Cuba as markets for American cloth, Mr. Hall noted that Venezuela in July of last year increased import duties "sharply" on cotton textiles, wearing apparel, and synthetic yarns; while Cuba recently raised tariffs on U. S. textiles by 36 to 154 per cent.

## News in Brief

**Knitters Turned Out for their Big Show.** Management of the 42nd Knitting Arts Exhibition held in Atlantic City, N. J., the last week in April estimated that attendance at the show was between 8,000 and 9,000—considerably more than the registration for the 1953 exhibition. Also, there was more machinery in operation than previously, in the opinion of seasoned observers.

## MERCHANDISING NOTES

**Beautiful Bryans, Inc.,** is offering a new extra-long stocking, knit from 15-denier Tiffanized nylon yarn, and available in sizes

8½ through 11, in lengths from 32 to 40 inches. The stocking is called "Liberte."

**Blackwelder Textile Co.** is producing combination yarns claimed to have the stretchability of stretch nylon. Blends include nylon-cotton ranging from 70-30 to 30-70, nylon-Acrilan, nylon-Orlon, and nylon-acetate.

**The Multex Co.** has been granted U. S. Patent 2,687,703 covering a lockstitch shirring method, said to produce a fabric in which a whole row of shirring will not unravel if a thread is pulled, as is the case with the usual chainstitch shirring.

**George W. Borg Corp.** has been issued U. S. Patent No. 2,705,880, covering the product and manufacturing process for "Borgana" fabric, a fur-like fabric used for women's coats.

**Robert Bruce** will include men's and boys' Acrilan sweaters in its fall and back-to-school lines.

**Courtaulds (Alabama) Inc.** has matched the 36 House and Garden decorator colors for 1956 in blends made using white viscose and the 15 colors available in Coloray, Courtaulds' solution dyed rayon staple.

**The Denim Council** has been formed within the Association of Cotton Textile Merchants of New York to promote the sales of garments and other merchandise made from blue denim.

**Barbizon Corp.** is marketing a sheer batiste of Dacron, nylon, and cotton, intended for sleep-wear garments.

**Fabrex Corp.** is showing the first dress-weight fabric made with color-sealed Orlon. The fabric has a combed cotton warp in black or colors, and a black Orlon filling.

**D. B. Fuller & Co.** has started to produce a line of cotton and synthetic drapery fabrics, in addition to its usual apparel fabrics.

**Holeproof Hosiery Co.** will market its "Hole-Flex" women's stretch nylon hosiery in four sizes to fit all leg proportions.

**National Association of Hosiery Manufacturers** reports enthusiastic consumer acceptance of stretch knit gloves . . . . The U. S. Army is conducting tests on stretch socks; their acceptance would permit QM to stock only three sizes of socks instead of present large range.

**Plymouth Dye Co., Inc.,** has filed patent application on a new finish for spun rayon fabrics for shirtings, "Ply-Set."

**Textileather Division** of General Tire & Rubber Co. has introduced a flexible plastic material with a nonwoven base, "Nygen Tolex," intended for furniture upholstery and automotive applications and claimed to give balanced stretch in all directions and excellent recovery.

**Thomas Textile Co.** is the producer of "Baby Blotter," a terry apron-towel-cape used in bathing babies. It serves first as an apron for the mother while she is bathing the baby, then as a towel, and then as a cape for the baby.

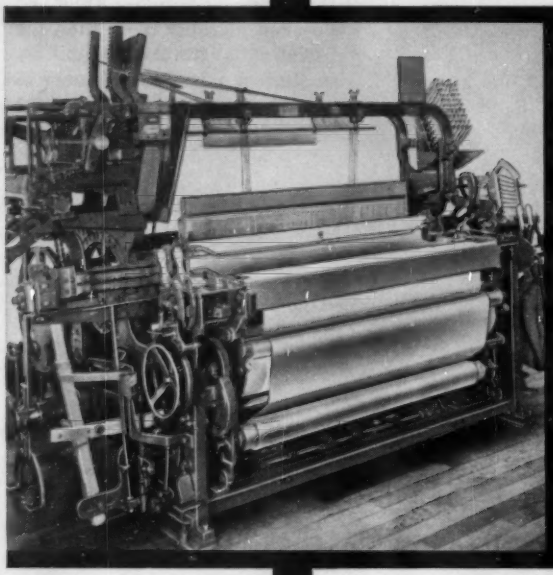
**J. H. Thorp & Co.** is offering a fire-resistant casement cloth, "Tussore," woven of a blend of Dynel, saran, and Fortisan. The fabric, first of a new line, has been approved for use in places of public assembly by the New York City Board of Standards and Appeals.

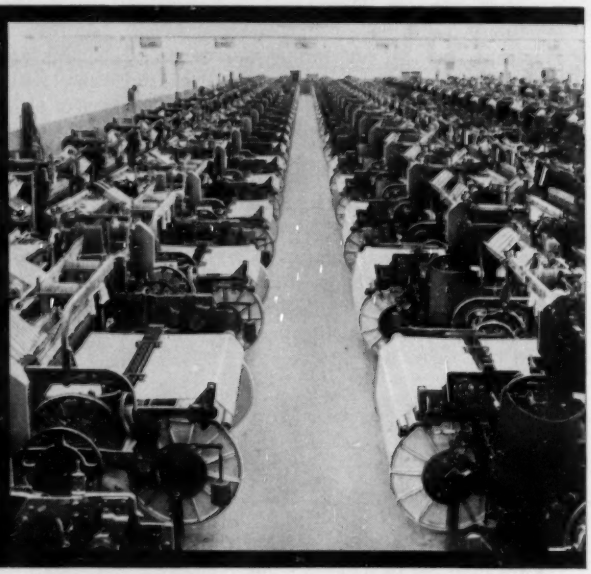
**The Wool Bureau, Inc.,** after a survey of 708 retailers across the country, reports that 86 per cent of the retailers said that all-wool suits are the consumer's best buy. Only 10 per cent voted blends the best investment, and less than 1 per cent gave their vote to suits of 100 per cent synthetics or synthetics mixed with fibers other than wool.

# LOOMS

number five of a series depicting

## MORE AND BETTER TEXTILE PRODUCTION WITH HYATTS





Crompton and Knowles S-6 Loom in which Hyatt Barrel and Hy-Load Bearings are employed on the crankshaft, bottomshaft and rockershaft.

Installation of Crompton and Knowles W-3A Looms at Robbins Mills, Raeford, N. C., where Hyatt Roller Bearings are applied in principal loom positions.

*Product protection*, assuring more "firsts" and fewer "seconds," is one of the prime reasons why Hyatt Roller Bearings are first choice of leading loom manufacturers and operators. The cloth is protected from spattering lubricant because all Hyatt housings are securely sealed.

Moreover, Hyatt Roller Bearings reduce friction so that looms can easily be turned by hand whenever necessary. This means considerably less starting power requirements than with old-fashioned sleeve bearings. With so much friction and wear eliminated, looms stay in adjustment far longer, too—another reason why you're always sure of *more and better textile production with Hyatts!* For further details on the profitable application of Hyatt Roller Bearings to textile machinery, request Bulletin T-54 from Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

# HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER

# AN EXECUTIVE Views

## THE NEWS IN TEXTILES

*Prepared by a man who is closely identified with the textile industry.*

## Some Prognostications

THE OTHER day I ran across a friend who had recently returned from Washington and who was filled with all the legend and folklore which, along with the cherry blossoms, have filled the air of the nation's Capitol since time immemorial. This gentleman had talked with several senators and congressmen, and he was saturated to the gills with facts and figures, prophesies and prognostications. For better, for worse, for richer, for poorer, here are his prognostications:

### Tariff

The textile industry will be successful in its tariff fight as far as *legislative* action is concerned. The Senate will adopt the several resolutions which the textile industry has proposed and the House will concur in these amendments. This will mean that Congress will not do anything further to our industry, possibly on the theory that there is no sense in stoning a dead dog.

He pointed out to us that the administrative proceedings now going on in Geneva, Switzerland, under the terms of GATT were something else again and that Congress had nothing to do with these matters except by way of influence. He could not obtain so much as an educated guess as to what reductions we might suffer at Geneva, but he did hazard the opinion that *something* would be forthcoming around June.

It was the feeling, he said, of those with whom he talked that if the textile industry won in Congress that this would have a beneficial effect upon the deliberations in Switzerland, and that it might even lead the way toward establishing some sort of quota system which would give protection as far as quantity imports were concerned.

### Labeling of Textile Products

There is, of course, already a law which provides for the labeling of woolen articles, and there has been considerable sentiment in some segments of the trade to force a similar requirement for all other textile products. At this writing, no Bill has as yet been introduced along these lines, but one is anticipated shortly.

Our friend investigated the possibilities of this and came up with the opinion that the Bill would be introduced during this session of Congress, but that it would not get as far as a vote in Congress. He felt further that the Bill would not even proceed as far as the hearing state.

When asked about the possibilities for approval of the Bill in the next session of Congress, he merely shook his head and mumbled that his salary would have to be raised if he were going to speculate beyond the current session.

### Walsh-Healey

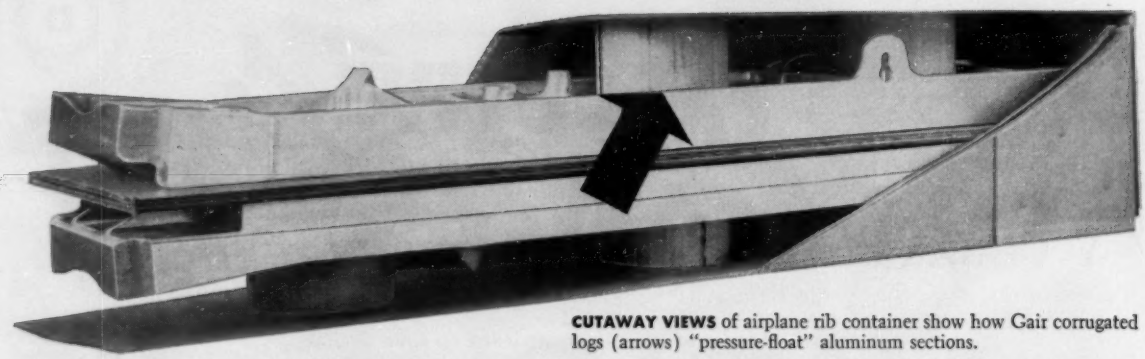
Our traveling friend explained that several bills are now in Congress which would provide that the Secretary of Labor could fix minimum wages for government contracts on a national basis, and that this would undermine the textile suit now pending in the Federal Courts. It will be recalled that the present law provides for wages on a "locality" basis, and that the courts are now engaged in the process of interpreting this term. This, he said, was a tough one in view of the interest of the New England textile industry in seeing a nationwide minimum and in the persuasive power and force of several New England advisors to the President, notably Sherman Adams.

He felt, however, that although there would be considerable beating of chests and flag waving for political purposes, that none of these bills would come up for a vote during this session. It was felt that the proponents of these measures would probably wait until the decision of the U. S. Supreme Court in the Walsh-Healey case before fighting it out in Congress.

### Minimum Wage

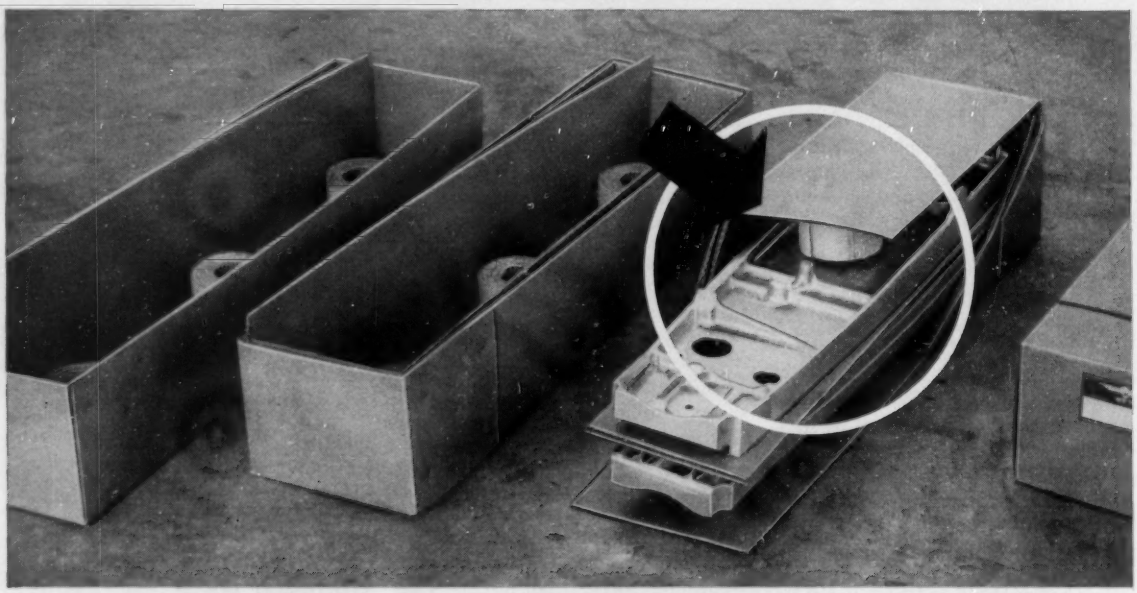
Not realizing that we, too, keep up with national events in our feeble way, our friend explained that the Walsh-Healey Act applied only to government contracts, but that a broader fight was being waged in Congress concerning the figure at which the Fair Labor Standards Act minimum should be set. The unions, almost to a man, have urged that the present 75¢ figure be raised to $1.25, and the Administration, through Secretary of Labor Mitchell, and even through the President, himself, has said 90¢. We asked our friend what he thought of this one and he said that he had received several different viewpoints, as follows:

(1) The Republican Party will



**CUTAWAY VIEWS** of airplane rib container show how Gair corrugated logs (arrows) "pressure-float" aluminum sections.

# Gair corrugated logs provide safe ride for contoured aircraft ribs



Thirty-five pounds of odd-shaped aluminum airplane rib posed quite a packaging problem for MPM, Inc., Cleveland specialists in Kellering and contouring aircraft parts.

Chief difficulty facing the Gair Container experts called in by MPM was securing the long, contoured aluminum sections inside the container to prevent damage in transit. Gair's imaginative and cost-cutting solution featured one of the industry's first uses of corrugated logs instead of intricately cut and creased packing sheets.

Six corrugated logs "pressure-float" the parts so effectively that no damage has occurred in the 1500 shipments completed to date.

Good example, we feel, of Gair's ability to come up with an out-of-the-ordinary container to solve a tough shipping problem. If you've got one that seems to defy solution, put Gair to work on it.

***YOU'RE LIVING NEXT DOOR TO THE EXPERT***

**GAIR CONTAINER PLANTS:** Atlanta, Ga. • Cambridge, Mass. • Cleveland, Ohio • Holyoke, Mass. • Los Angeles, Cal. • Martinsville, Va. • No. Tonawanda, N. Y. • Philadelphia, Pa. • Plymouth, Mich. • Portland, Conn. • Richmond, Va. • Syracuse, N. Y. • Teterboro, N. J.

SINCE 1864

**GAIR**

SHIPPING CONTAINERS

FOLDING CARTONS • PAPERBOARD

ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK 17, N.Y. SC.5.6

talk about $1.00 but will finally bow to the President's wishes for 90¢, because Eisenhower's popularity can stand the jolt.

(2) The southern coalition will not be enough to stop the bandwagon, and liberal Republicans and liberal Democrats will force through a $1.00 minimum.

(3) In vying with each other for popular acclaim, the leadership in both parties will finally shake hands over $1.10, and in the face of this coalition the President will not be able to force himself to veto the Bill.

(4) The two parties will fight so hard for the credit of having raised the minimum that the situation will become deadlocked and no bill will be passed, leaving the minimum at 75¢.

We explained that this was sort of a difficult dilemma to pass on to our readers and that we would like something more concise in the way of a prophesy. After much hemming and hawing and scratching of head, he finally said that if he had to put his money on one horse it would be on 90¢ for the new figure.

## Raw Cotton Legislation

The general feeling seemed to be that there would not be any export subsidy plan for raw cotton, nor any two-price plan for raw cotton, unless some sort of adequate safeguards are given the textile industry. There seems to be a much keener awareness in Washington that you cannot sell cotton —American cotton, that is—to foreign mills at a lower price than that paid by American mills, and continue to maintain a domestic textile industry.

Nevertheless, the problem of huge cotton surpluses in this country is still with us, and leaders in both the executive branch and the legislative branch are faced with the difficult problem of what to do with these surpluses.

## The Next President

We expressed considerable interest in who the next President of the United States might be, this being a position of some importance in the public eye. Try as we might, however, we could not obtain any prognostication as to the lucky gentleman. Finally, we retreated to the question of who would be the nominees of the two principal parties in the next Presidential election and we got this concise answer: Eisenhower and Stevenson.

## Finale

It is an old and perhaps true adage that the proof of any pudding is in the eating thereof. The only way you can judge the accuracy or inaccuracy of the prophesies made by our friend will be to check them against the final record. By the time this appears in

print some of the answers may already be available, but others will be available shortly thereafter.

The heat of the Potomac River country, not to mention the heat generated in the Halls of Congress, will probably drive this great deliberative body from the District of Columbia by July and you will not have to wait long to weigh these prophesies.

**JUNE**

**June 3-4**—Annual outing **Southeastern Section AATCC,** Radium Springs, Ga.

**June 9-11**—Annual reunion **Alumni Assn. of Philadelphia Textile Institute** and commencement exercises.

**June 10**—Annual outing **Northern New England Section AATCC.**

**June 10-11**—Annual outing **Piedmont Section AATCC,** Mayview Manor, Blowing Rock, N. C.

**June 11**—Annual outing **Midwest Section AATCC,** Lake Lawn Lodge, Delavan, Wis.

**June 16-18**—Annual convention **Southern Textile Association,** Mayview Manor, Blowing Rock, N. C.

**June 24**—Annual outing **Niagara Frontier Section AATCC.**

**June 25-July 10**—**International Textile Exhibition,** Brussels, Belgium.

**June 26-July 1**—Annual meeting, **American Society for Testing Materials,** Chalfonte-Haddon Hall, Atlantic City, N. J.

**June 27-29**—**International Congress of Scientific Research Applied to the Textile Industry,** Brussels, Belgium.

**June 30**—Conference of **AIEE Textile Subcommittee,** Ocean House, Swampscott, Mass.

**AUGUST**

**Aug. 22-Sept. 9**—**International Wool Textile Research Conference,** Sydney, Geelong, and Melbourne, Australia.

**Aug. 25-26**—Annual convention, **Southern Hosiery Manufacturers Association,** Hotel Roanoke, Roanoke, Va.

**SEPTEMBER**

**Sept. 8-9**—Fall meeting, **The Fiber Society,** Massachusetts Institute of Technology, Cambridge, Mass.

**Sept. 14-16**—Annual **Southeastern Personnel Conference,** Duke University, Durham, N. C.

**Sept. 20-21**—**The Chemical Finishing Conference** sponsored by the National Cotton Council of America, Chalfonte-Haddon Hall, Atlantic City, N. J.

**Sept. 22-25**—National convention, **AATCC,** Chalfonte-Haddon Hall, Atlantic City, N. J.

**Sept. 29-30**—Annual outing **Chattanooga Yarn Association,** Lookout Mountain Hotel, Chattanooga, Tenn.

**Sept. 29-30**—101st annual meeting of **National Association of Cotton Manufacturers** and 3rd annual meeting of **Northern Textile Association,** Wentworth-by-the-Sea, Portsmouth, N. H.

**Sept. 29-30**—Fall meeting of the **Southern Textile Methods and Standards Association,** The Clemson House, Clemson, S. C.

**OCTOBER**

**Oct. 13-14**—49th annual meeting **North Carolina Textile Manufacturers Association,** Carolina Hotel, Pinehurst, N. C.

**Oct. 17-19**—Fall meeting, **National Council for Textile Education,** The Larches, Hopedale, Mass. Hosts· American Textile Machinery Association.

**Oct. 27-28**—Annual convention, **The Quartermaster Association,** Conrad Hilton Hotel, Chicago, Ill.

**Oct. 29**—Fall meeting **Textile Operating Executives of Georgia,** Georgia Institute of Technology, Atlanta, Ga. Carding and Spinning 9:00 A.M.

**NOVEMBER**

**Nov. 3-4**—Annual **Mid-Atlantic AIEE Textile Conference,** North Carolina State College, Raleigh, N. C.

**Nov. 14-18**—**Chicago Exposition of Power and Mechanical Engineering,** Coliseum, Chicago, Ill.

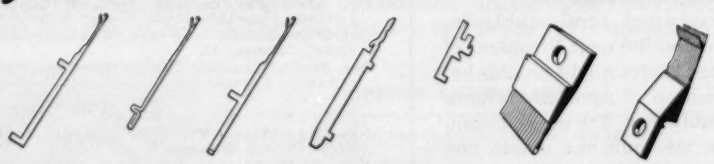
## Let's put it on the Line

Put Arrow Latch Needles or leaded parts to work in your machines and you'll get true alignment of needles, consistently. even stitches, less idle machine time — and the resultant lower cost and extra production.

A strong latch, freedom of latch movement, and smooth finish are some of the important little things that contribute to fine knitting with Arrow Latch Needles.

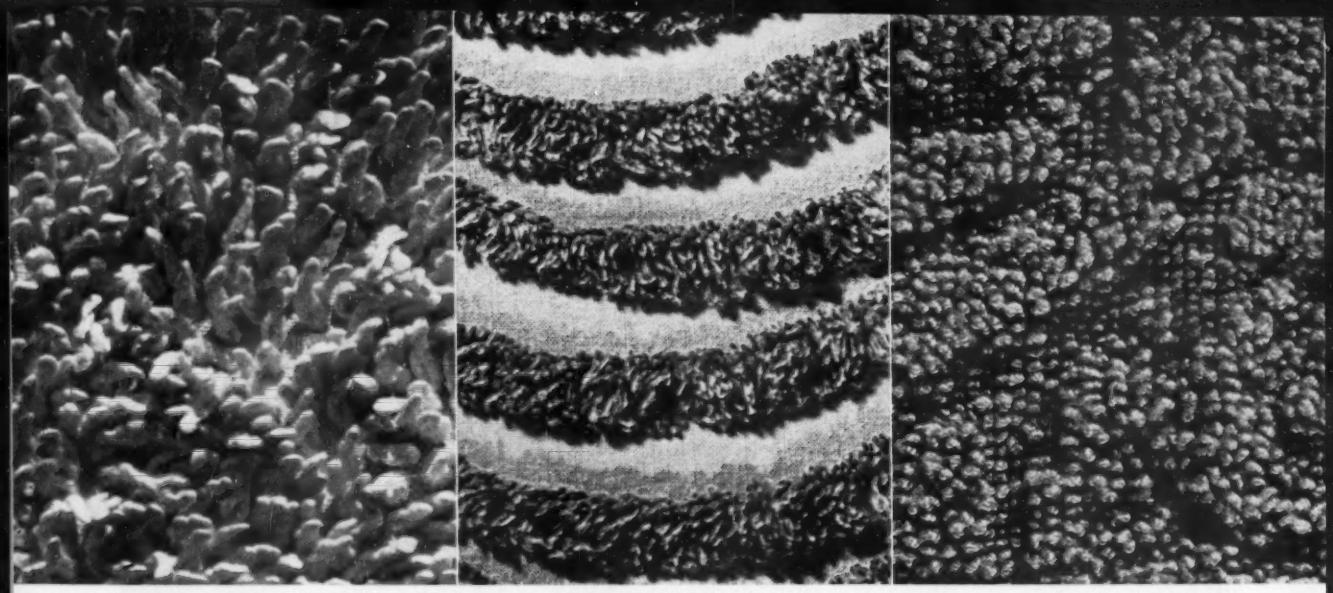
Deliveries from stocks in Reading, Penna., Asheboro, N. C. and Manchester, N. H.

**Arrow Latch Needles**



*Wire Products Division*

**TEXTILE MACHINE WORKS, READING, PENNA.**



# TUFTED TEXTILES

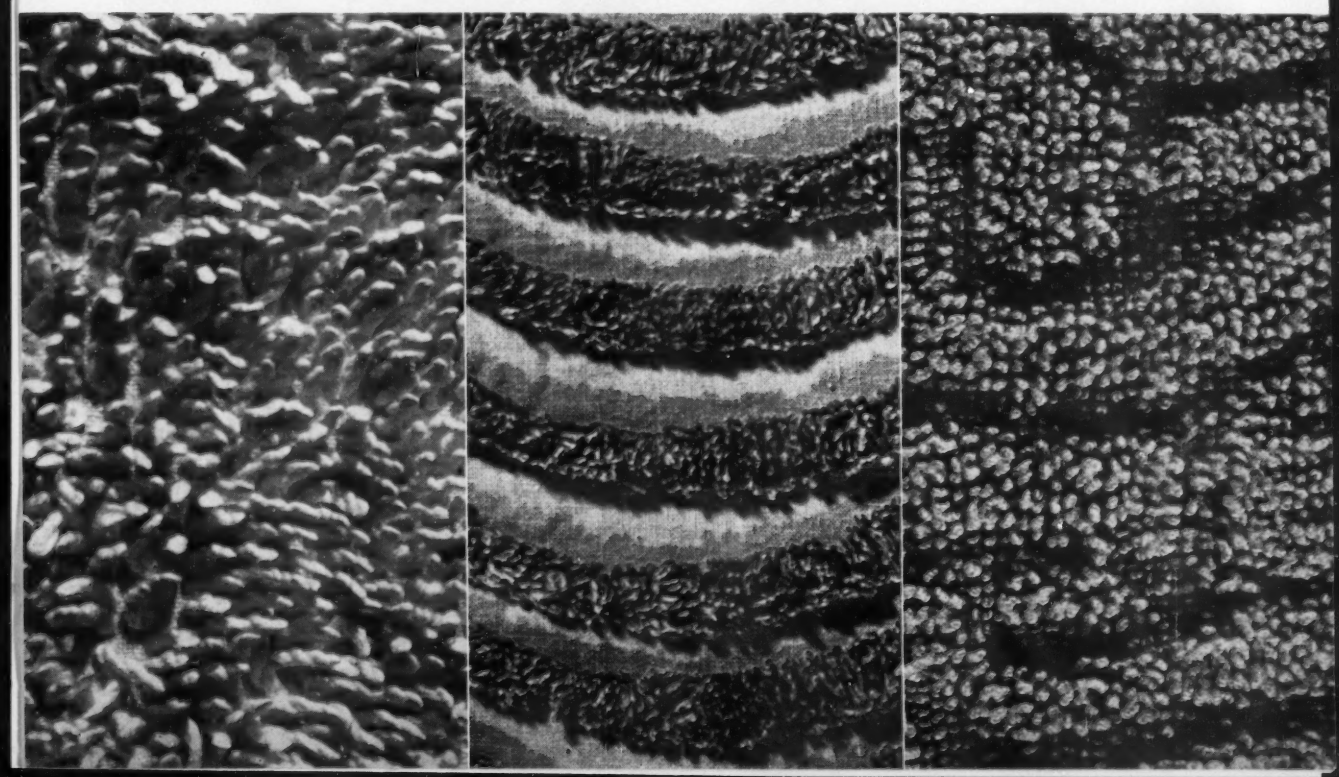
*An Exclusive Staff Report*

THE STORY contained in these pages is an objective study of the tufted textile industry, a good customer of the spinning and weaving textile industry. The article is based upon visits to different types and sizes of tufted plants, and upon interviews with tufted management, employees, machinery manufacturers, suppliers, and authorities close to the industry.

This story is not about "a" plant; neither an individual tufted plant nor a particular size plant provides the basis for the article. It is from and about the tufted industry as a whole.

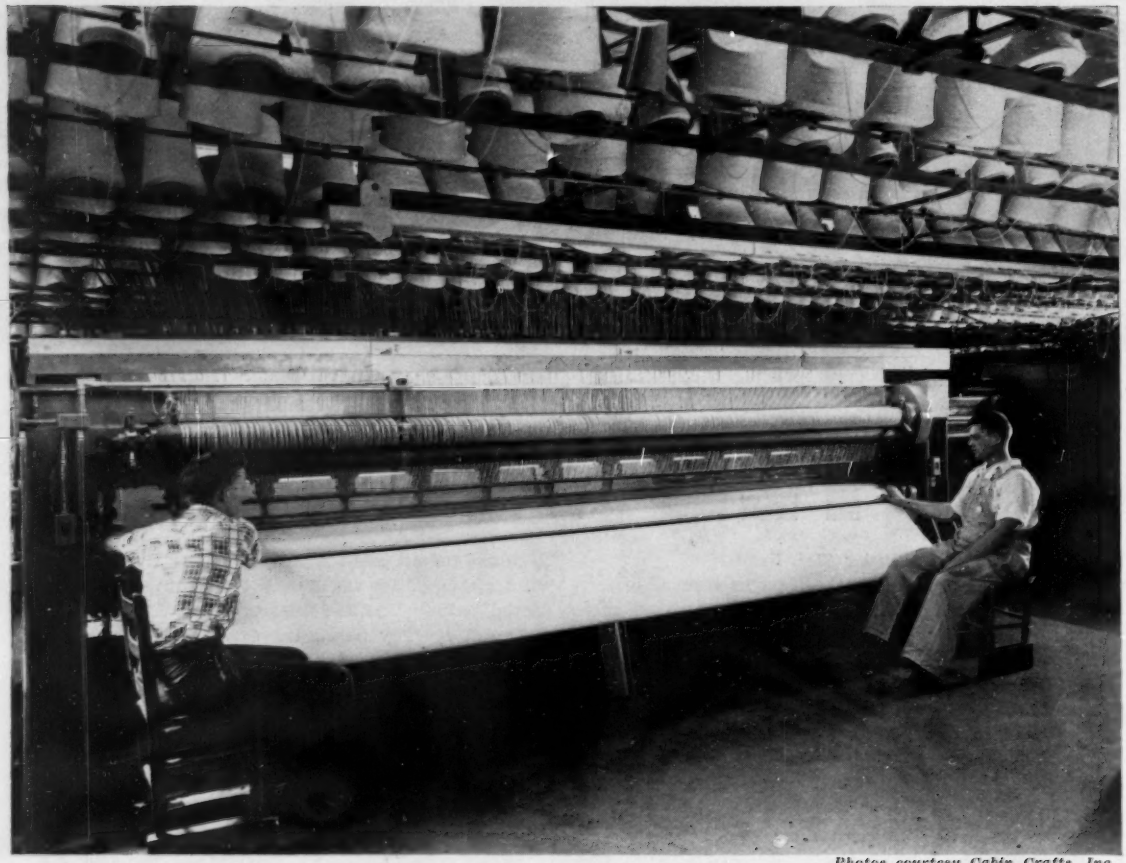
The story may be controversial. However, for the most part the opinions of those interviewed who know the industry and the opinions of the tufted industry about itself are one and the same.

An industry that retains its virtues—knows its shortcomings and does something about them—will be increasingly stronger.—Eds.



# How Tufted Products Are Made in One of the Industry's Quality-Minded, Progressive Plants

*(Shown photographically on pages 104-115 in this special section)*



*Photos courtesy Cabin Crafts, Inc.*

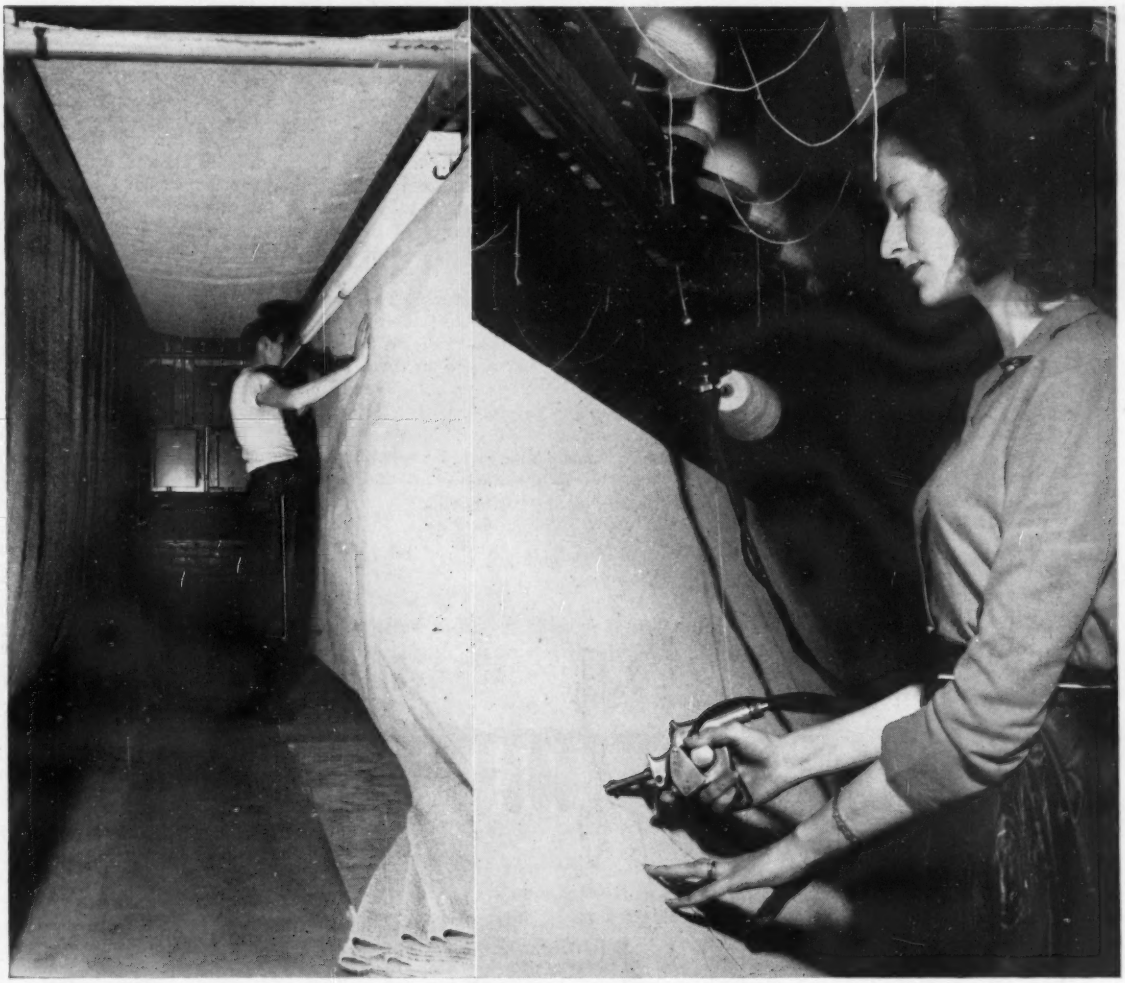
**TUFTED CARPET.** This is a 12-ft high speed carpet tufting machine. It will make both 9-ft and 12-ft carpet from duck or jute backing (shown in photo between operatives). This is a mill-made tufter; creel is above machine, but could be behind it. Operatives watch for broken ends. There is no stop motion. Yarn leads to tufter through copper-plated steel tubes. Tufted carpet passes behind machine so that operatives do not see the carpet as it is made.

THE TUFTED textile industry makes bedspreads, draperies, robes, housecoats, jackets, beach robes, bathmats, bathroom sets, towels, rugs, carpets, novelties, and specialties. It started about the turn of the century as a home handicraft for bedspreads, enlarged to numerous small industrial enterprises for bedspreads, diversified into other products, and grew by the hair of its head into rugs and carpets.

North Georgia, around Dalton, is the tufted center of the world. Most of the plants are in Tennessee, Georgia, Alabama, North and South Carolina; but 18 states, from Pennsylvania to California, have one or more tufted mills.

**Size of Industry.** The exact number of plants is not known because smaller ones may appear at dusk and vanish with the dawn. But the industry is settling down in number and in operating methods. Those that fell by the wayside left their contribution; those still with us will adopt modern manufacturing techniques or join the list of the vanished. For the tufted industry is by self-admission at the commencement stage of life.

Some 25,000 employees are estimated to be in the industry, furnishing jobs to additional thousands who supply it. One listing a short time ago carried the names of over 300 plants of all types of tufteds, but neither suppliers nor other tufters could find some of them; many firms whose names appeared were known to be out of existence a short time later. A more recent tabulation indicates there are about 175 plants that make cotton and synthetic rugs and carpets, although the same plant may make products in addition to rugs and carpets.



**INSPECTION POINT.** Passing from the tufting machine (left), the carpet goes over a scaffold so that operative may inspect and either mark imperfections or mend at this station. The inspector in this photo is on the opposite side of the machine from the operators. Right: The carpet continually moves forward as the tufter operates. A missing end may not have been observed by the operator, and the mender inserts the tufts in the correct places, using the single end tufter gun.

A portion of these classed as manufacturers are said to be the "garage" type of business, and statistics for the industry on size, employees, production, profit, etc., are difficult to secure except by personal inspection.

Despite the coming and going of tufted plants, it is far from a fly-by-night industry. Some of the plants making tufteds would shame many of our long-established textile mills. But it is relatively a new industry, and until recently only a small amount of capital was required to go into tufteds. Cinderella stories and true experiences attracted those who were incapable of operating a business enterprise; cutthroat competition and inferior products entered the picture, so tufting plants came and went. The strong stayed.

The parallel is in textiles. At one time there were 35 million cotton spindles in the United States; today there are 23 million. The textile industry can well appreciate cutthroat competition and other factors that caused a reduction in spindleage. Being a new industry and a mushrooming one, the growth and settling down in tufteds occurred over a shorter period of time. Transients were and are a natural part of its life.

**Tufteds as a Customer.** The tufted industry consumes vast quantities of both man-made and natural fibers in yarns and backing. It is a good customer of the textile industry. It is also a customer of suppliers to the textile industry because it uses chemicals, dyes, and general factory and shop supplies and equipment.

One mill recently checked the inventory and discovered that it maintained a stock of over 2,000 different items. Among them were

# The Principle of the Tufting Operation

*Illustrations courtesy Super Tufter Machinery Co., Inc.*

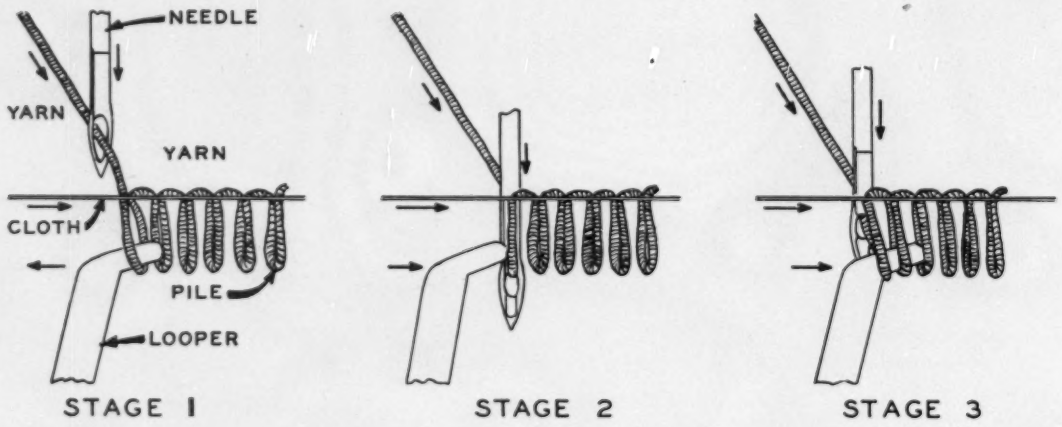
Tufting may be short loop or cut pile. Three stages of the tufting operation are shown. All three stages take place in one revolution of the machine. Pile is made on the bottom side of the cloth (backing) as the cloth passes through the machine; depth of pile may be regulated by machine setting. Yarn on top of cloth during the tufting process is known as a stitch; the number of stitches per inch is controlled by the relative speed of the machine and the cloth. Needle used is shown full-size at left.

**Short loop tufting**

*Stage 1.* Yarn from the supply package is threaded through the needle. Needle is beginning its downward movement. The looper is starting its backward travel out of the previously inserted loop of yarn and away from the path of the needle.

*Stage 2.* The needle has passed through the cloth (backing), taking the yarn with it, and is now at the bottom of its stroke. The looper has started its forward movement to intercept the path of the needle, and has begun to enter the recess in the needle, passing between the needle and the yarn.

*Stage 3.* The looper has crossed the path of the needle (moving within the recess of the needle), and has removed the proper amount of yarn from the needle to form a new loop. The needle begins its upward movement and leaves the yarn around the looper. The looper remains in this position until the needle has reached the top of its stroke and has started descending again, at which time the looper moves out of the path of the needle (as shown in Stage 1).

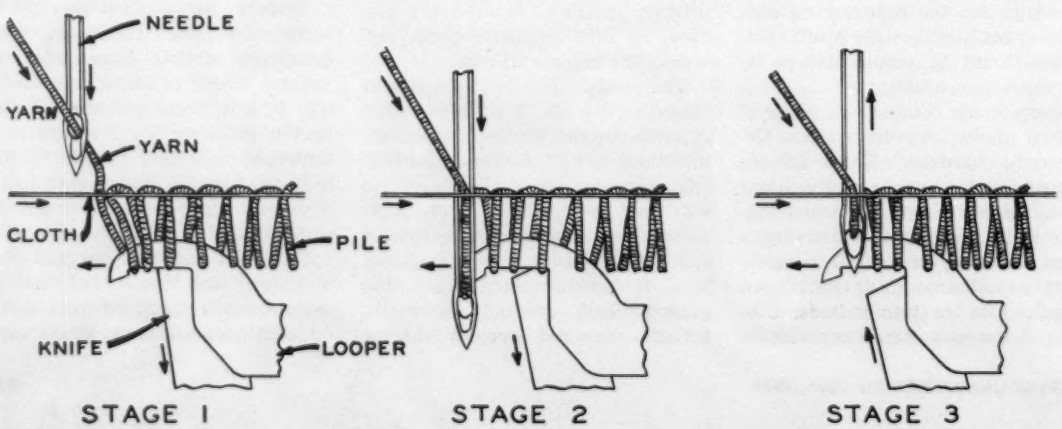



**Cut pile tufting**

*Stage 1.* The looper holds two loops while the knife cuts the third previously inserted loop. The knife cuts against the edge of the looper. At this stage the knife has already cut the third previously inserted loop and is at the beginning of the next cycle, moving downward. Looper is beginning its movement to intercept the path of the needle.

*Stage 2.* The needle has pierced the cloth and delivered the proper amount of yarn to the looper. Looper is still moving forward to intercept the path of the needle. Knife is moving away from the cutting edge of the looper to permit the next uncut loop to enter the cutting area. Note that the yarn travels inside of groove in the needle.

*Stage 3.* Needle has started its upward travel, leaving a loop of yarn on the front cutting edge of the looper. Looper begins its withdrawal while knife is moving upward to sever the third loop (previously inserted), thereby starting another cutting cycle, as shown in Stage 1.



bridle snaps, 35-mm projectors (to project pattern while being sketched in), Austrian rhinestones, log chains, safety pins, thermometers, suede brushes, wall maps, butterfly hinges, and plastic wood.

In addition, the tufted industry has its own specialty suppliers who furnish various types of tufting machines and equipment and parts unique to the industry.

**Sales and Promotion.** Within the industry are completely integrated mills, those that only tuft, those that tuft and finish, and those that only finish. Well-known selling organizations serve the industry, but sales are also handled by the mills' own organizations, or by visits from buyers, and in as many different ways as the imagination can conjure.

Few mills advertise nationally; few are promotion-minded. Few have engineers; few adhere to modern production methods; few do research.

Still tufteds sell. The profit of tomorrow may not be as large as that of yesteryear. But with the introduction of highspeed equipment, entrance into the field by experienced textile organizations with knowledge of yarns and streamlined production methods, and adoption of advanced merchandising techniques, tufteds will be on the move—those that can stand the pace.

**Competition Within and Without.** The tufted industry suffers from competition and the downgrading of products within its own industry, from excellent merchandising methods by hard surface floorcoverings, and also stands to be in a serious situation should great quantities of foreign tufteds enter the American market without adequate tariff protection.

For a long time highspeed tufting machines were made only in this country, though they were sold abroad. Now foreign machinery manufacturers can supply tufting equipment. With lower wage scales in foreign countries, American tufters look for increasing competition from tufted products that may be shipped into America.

The textile industry and the tufted industry have joined hands in urging against the lowering of tariffs.

Textiles (spinning and weaving) stand to lose on both ends if adequate tariff protection is lost: (1)

**SMALL RUGS.** In this room are single- and multiple-needle machines for making small rugs. They are known in the trade as accent rugs, area rugs, scatter rugs, and throw rugs. The pattern for the rug is laid off on the backing and the operator follows the design.

## History: How the Tufted Industry Got Its Start

The tufted bedspread is not new to America. Colonial-day housewives made them; some examples of this early American handicraft are still preserved in museums. But it required the efforts in 1900 of a young farm girl in Georgia and the casual sale of a single bedspread to revive the art of hand tufting and to start an industry that centered in Dalton, Ga.

Unbleached sheeting was purchased from local stores; designs were made with pencil, pie plate, and ruler; cotton yarn was wound on corn cobs; tufts were sewed or inserted with a bodkin and stitches cut with scissors; bedspreads were laundered in iron washpots, bleached in the sun—and the industry was born in the homes of the men and women who found time to work at it.

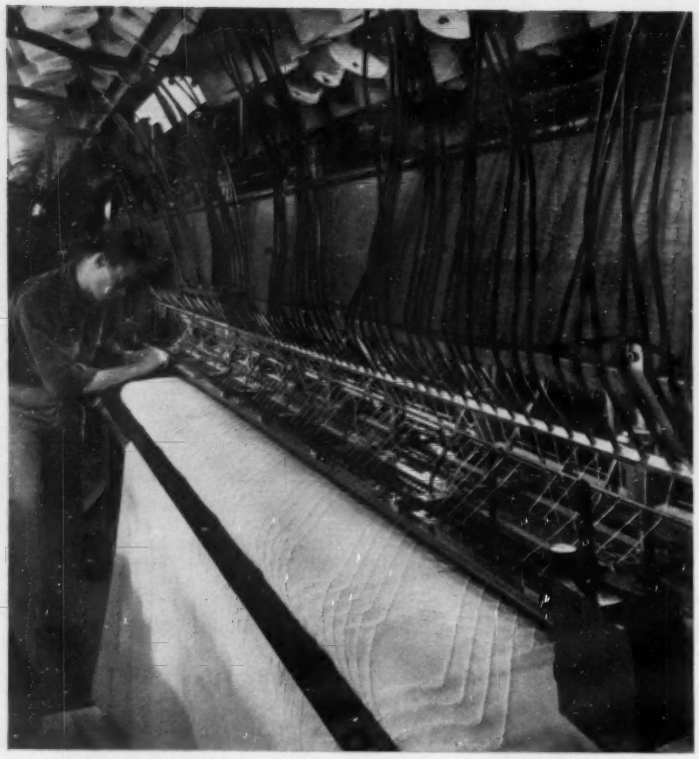
Tufting proved profitable. Soon housewives who were promoters began purchasing the bedspreads and selling them to stores, or arranged to have the spreads made on a commission basis. Later the husbands realized the women were no longer making pin money, but big money; so many of them quit their businesses or professions and devoted all of their time to making and selling bedspreads.

Sales agents and other investors recognized the opportunity, and northern capital was invested in Dalton's new industry. Even during the period of 1920 to the early 30s hand-tufted products were coming from the farm homes and mountain homes of North Georgia, Tennessee, the Carolinas, and Alabama—from stamped sheeting conveyed to the homes by investors and sales agents.

Machines were introduced between 1930 and 1935, changing a handicraft to a mass-produced machine-made product. Factories were built so that home-tufters became factory-tufters. Finishing plants (usually called laundries) were established.

New techniques developed, and the bedspread industry grew into one which manufactured bath mats, rugs, robes, and other items.

Only a few years ago the tufting industry began making cotton carpeting. Today both natural and synthetic fibers are used in tufting of floor coverings. Tufting has grown into a big business.



**TUFTED BEDSPREAD.** This is a high speed machine for making the background tufts for bedspreads. The machine is cammed for the pattern; it can do in a matter of seconds what one operator formerly did in an hour or an hour and a half. When the backing has been suitably tufted with background design, the tufted spread is made fancier and more attractive and more expensive by additional tuft designs inserted on single- or multiple-needle machines in another operation, similar to the manufacture of rugs. Or the bedspread may be embroidered.

in their own markets because of foreign shipments, and (2) in sales to the tufted industry if tufteds are not protected.

**Lowered Quality.** Without any assistance from foreign markets, the tufted industry works itself into a precarious position with the public when it cheapens the product to make a quick and profitable sale. Any cheapening of an established and quality product is a reflection on tufteds in general and severely damages consumer acceptance.

This cheapening is said to be practiced primarily by the smaller operators and the transients, though pressure from department stores, which use the goods as promotional items, may cause the reduced quality products to be made by larger and well established plants.

**The One-Man Operation.** Smaller plants in tufteds are often a "one-man" operation, though any number of employees may be used. Such a plant has little overhead, no advertising or promotion expense, can operate or not as it chooses, may not even have an electrician, and in general just gets along and makes tufteds.

Perhaps a going style is adopted by the small operator; he can sell it cheaper or he can decide to lower the quality somewhat and offer an attractive price. It is surprising how far a business like this can be expanded on a production basis with just one man looking after it.

His goods are sold for him on commission; he does not have to employ a technical man or an engineer or even a bookkeeper. He just makes a profit. Of course, if anything happens to the man or if he is sick, his entire investment is jeopardized. Fortunes have been made by this type of operation. When the going gets too rough, another transient is chalked up. Until he becomes a transient and as long as he cheapens the quality product, the entire tufted industry pays through the nose.

Another type of small operator is one who runs as best he can but doesn't know his cost and if he is making a profit or a loss on a sale.

Ignorance of cost and sales below cost have a way of bringing the market price lower for established lines, irrespective of whether the operator's aims were intentional or not. Such ignorance brings on another transient, but only after the rest of the industry has suffered. *(Continued on page 110).*

## The Small Operator

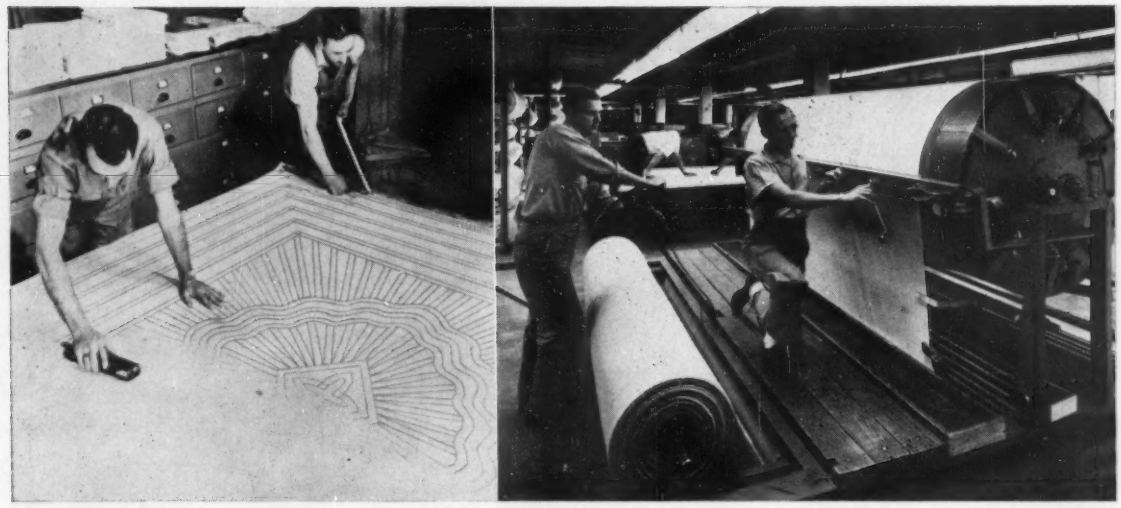
A typical small tufting operation for robes may have table model machines or even one or more yardage (high-speed) machines for putting the background tufting on the sheeting. It is primarily a cutting operation once the machines have turned out the material.

Yarn and backing sheeting are purchased. After tufting, goods are inspected and mended at the same time on a mill-made device; material is cut in layers according to patterns, and seamstresses sew the robes.

Each seamstress completes the garment, but approaches mass production methods only when she decides to sew 25 or 50 of the same parts together, then comes back and adds the other parts to complete the robe.

Completed robes go to an outside commission laundry for dyeing and fluffing.

Investment in a plant of this type is small, and operatives work only against orders. Work is seasonal, but obviously has been profitable to the owner.



**FANCY BEDSPREADS** may have the design for tuft insertion done by the hand layoff method (left); a raised pattern is under the sheeting and the wooden bar containing wax and water-soluble dye is rubbed across the sheeting, leaving the pattern thereon. Operator at the tufting machine follows the design. Mass production designing (right): Although hand layoff designing was the original method and is still used by many mills today, mass production designing may be performed on this mill-made design drum. It can process in 20 minutes the number of designs that formerly required two men a full day.

## Textile Managements Go into Tufteds

A background in textiles is thought to be an advantage in an industry (tufteds) which uses yarns and fabric as the basic material. Control of the product from raw material before it reaches the spinning mill, in the tufting and dyeing process, and to the sales organization has its rewards.

Tufted carpet is a relatively new field, and if a textile man is as alert in the future as the wool rug manufacturers have been in the past, the business will be successful.

For adequate control and to conduct research from bale to goods, the integrated unit is thought to be essential. This could mean that yarn men will go into the tufting business or tufters will go into the yarn business . . . or some system could be developed whereby complete control of yarn-tufting-finishing-sales is under one executive head.

An example of this control is the quick cooperation cited among the several components (bale to sales) on a research problem that was solved in a matter of days instead of months when control was not possible.

Also, if competition remains keen, the integrated unit can ignore the profit on the yarn and sell carpets, disposing of its yarn in carpet sales, thereby becoming more competitive than the competitor.

Tufteds miss experience in research. Neither do tufteds know how to borrow technical knowledge from the major suppliers to industry on problems in dyeing, finishing, engineering, etc. This borrowing of free knowledge superior to its own is an old story in textiles.

Textile men believe that the tufted industry does not know the end result that will give wearability and cleanability in a tufted product, due to a lack of textile knowledge. The textile engineers intend to correct this in their research and manufacturing operations.

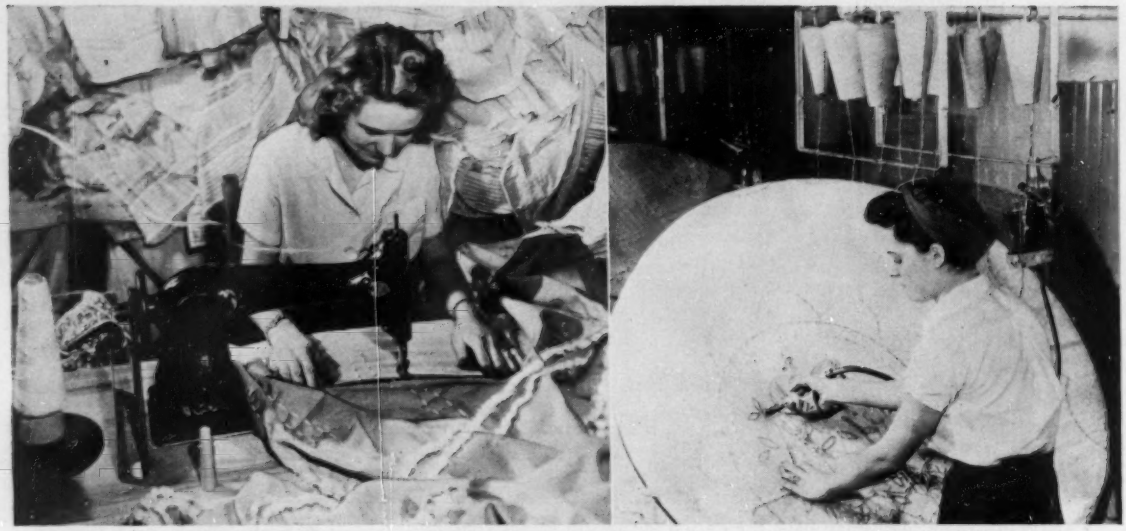
In a test run on two machines which were side by side, using yarns from different textile mills, one turned out in the same time 1214 feet of carpeting and the other 310 feet. The cause of the discrepancy (e.g. slubs, gouts, knots, thin places) was quickly found, and the yarns from the two companies were evaluated.

Advice comes in the terms that unless the man knows what yarns will do, has a knowledge of finishing, and understands the testing of carpets, a less competitive field would be more lucrative. This is substantiated by some men with tufting experience who left their tufting plants to join hands with textile men going into tufteds.

Another caution to newcomers is that the tufted business is full of peaks and valleys in sales. When calculating the overhead at full production, be sure to count on the "valleys" when the same overhead must be met.

For the future, the tufted industry must think in terms not just of machines, but materials handling, air conditioning, engineering, research, and employee training.

Raw stock dyed yarn is coming more and more into tufteds; those who use them will be leaders in industry. Package dyed yarn probably will not be used in carpets because it is difficult to match shades.



**SINGLE-NEEDLE TUFTER** (left). This is the basic machine which was used 25 years ago and sometimes still is used by the tufting industry to make tufted products, primarily bedspreads. It probably was bought from a sewing machine manufacturer and converted to do tufting. Note that tufting appears on opposite side of fabric from operator. Intricate designs (right). This bedspread is being embroidered with an electric needle-point machine (patented by this particular mill). The operator follows previously placed designs. The principle of operation in making tufted goods for bedspreads and robes is the same, except that robes must be sewed together from several cuttings, as regular garments are manufactured.

*(Continued from page 108)*

Then there are the operators who have either made a quick profit and sold out, or have become established and sold out. Those still in the business consider them smart.

**Need for Trained Technicians.** The absence of trained technical men is not confined to the small operators. Although the industry uses great quantities of fabric and yarn in its operations, until recently few textile men have found

## Packaging for Profits

The tufted industry which manufactures bedspreads, robes, bathroom sets, and other smaller items for home use apparently has not taken advantage of better packaging to get the plus business. While the citrus fruits, beer, towel, and hosiery industries, and many others have taken advantage of not only the attractive display package, but one which sells in groups, tufteds for the most part has been content to trail along with bulk sales.

The modern package field as a method of merchandising appears to be wide open, and one which could prove profitable in the moving of additional goods. Excellent advice is available to tufters from suppliers of unique and attractive packages.

Here are some reasons why the tufter may wish to consider packaging as a merchandising aid:

1. Retail shelf and counter space is costly; the retailer will stock items which turn over faster and yield the best profits. Modern packaging and group or accessory packaging have already been proved; tufters can join the procession.

2. With the development of the suburban store, which must keep pace with the city's or community's leading retail establishments, modern packaging for the suburban store is a must.

3. Retail stores which purchased in bulk and packaged their own goods, have found that it is less costly to have the merchandise packaged by the manufacturer.

4. Adequate packaging reduces the retailer's loss due to handling and pilferage.

5. Packaging can be designed for occasions; Mother's Day, Easter, Christmas.

Other industries have felt that they operated on too close a profit margin to consider the added expense of packaging, only to discover that they needed modern packaging to compete in the home market. Thus, modern packaging was forced on them as a means of protecting their investment.

Packaging is not necessarily a hand operation. Automatic and semiautomatic machines are available or can be designed or modified for a specific product. And packaging is not always an additional expense; the purchaser usually pays for the package, and often the manufacturer who packages makes a profit on both his manufacturing operations and his packaging operation.

## The Market for Carpets and Rugs

The demand for floor coverings (carpets and rugs) is influenced by the disposable income in the hands of consumers, the distribution of income among consuming units, new residential construction, and the number of families, according to the Carpet Institute, Inc.

Expenditures for products such as carpets are among the first to be reduced in the early phases of a depression and among the last to increase during the recovery phase of the business cycle.

Furthermore, these are purchases which can be (and often are) readily postponed. One study has been shown that 60% of the people interviewed had been anticipating buying, another way of saying postponing, a carpet or rug for a year.

Over the past thirty years there has been a fairly close relationship between carpet and rug production and the construction of residential dwelling units. [It should be pointed out that although the tufting of carpets and rugs is a comparatively newcomer to the floor covering field, tremendous increases in sales have been noted in tufteds. The market studies were made from the viewpoint of all rug and carpet floor coverings, including woven and tufted.]

Approximately 30% of the rugs and carpets (before World War II) went to newlyweds, and more recent studies indicate that about 40% of the purchases were made within a year of marriage.

Peak seasons for the purchase of carpets and rugs are spring and fall. In 1948 (latest figures available) carpets and rugs were sold by approximately 22,000 retail stores, the three major types being furniture stores, floor covering stores, and department stores. It is estimated that approximately 41% of the volume is accounted for by furniture stores.

During 1951 and 1952 the woven carpet and rug industry made progress toward utilization of man-made fibers as an answer to the dwindling wool supply and an unstable wool market. They are not substitutes but are a permanent addition to the raw material picture. As an example of the growing use of synthetics, the yardage in blends or all rayon jumped from 27% in 1951 to 36% in 1953. [Information in the trade indicates that rayon usage is on the increase, to such extent that allotments of some types have to be made.]

The public's acceptance of tufted carpets and rugs has been such as to cause those mills which formerly produced woven wool carpets to go into tufteds as well.

Competition exists betwen various types of soft floor coverings, but there is also competition between soft floor coverings and hard surface floor coverings. This may be seen by the fact that in 1935 the value of products shipped by the hard surface industry was $52 million and had jumped to $175 million in 1947.

**PRODUCTION OF TUFTED RUGS AND CARPETING AND WOVEN AND KNITTED COTTON RUGS AND CARPETING**

**(All figures in thousands)**

| Product | Jan. 1-June 30, 1954[1] | | July 1-Dec. 31, 1953[1] | | Jan. 1-June 30, 1953 | | Jan. 1-Dec. 31, 1952 | |
|---|---|---|---|---|---|---|---|---|
| | Pounds | Square Yards | Pounds | Square Yards | Pounds | Square Yards | Pounds | Square Yards |
| TOTAL PRODUCTION | — | 25,704 | — | 23,321 | 49,889 | 19,821 | 85,190 | 34,578 |
| Tufted rugs and carpeting, total | — | 24,213 | — | 21,509 | 43,068 | 17,527 | 71,388 | 29,567 |
| Scatter rugs, bathmats and sets (rugs 4 ft. x 6 ft. or smaller) | — | 11,677 | — | 12,151 | 24,050 | 10,649 | 43,602 | 19,146 |
| Rugs and carpeting, including roll goods (rugs larger than 4 ft. x 6 ft.) | — | 12,536 | — | 9,358 | 19,018 | 6,878 | 27,786 | 10,421 |
| Woven and knitted cotton rugs and carpeting, total | — | 1,491 | — | 1,812 | 6,821 | 2,294 | 17,802 | 5,011 |
| Scatter rugs, bathmats and sets (rugs 4 ft. x 6 ft. or smaller) | — | 221 | — | 300 | 1,249 | 446 | 4,387 | 1,529 |
| Rugs and carpeting, including roll goods (rugs larger than 4 ft. x 6 ft.) | — | 1,270 | — | 1,512 | 5,572 | 1,848 | 9,415 | 3,482 |

*Source: Bureau of the Census, Industry Division, Textile Section.*
[1]Manufacturers' shipments. Production figures are no longer published.

their way into tufteds; most of those who did became no part of the established industry, but were newcomers and competitors of it.

No technical training school is available, but plans are in progress to establish a vocational school for operatives.

Absence of textile engineers extends to other technical experts. A terrible shortage exists of dye men, accountants, traffic men, electricians, mechanical, and other engineers. This fact is bemoaned by industry leaders.

**Industrial Relations.** Only a few of the more progressive tufted mills have gone far in industrial relations, as the textile industry interprets the term. There are those who still see no value in having clean restrooms, luncheon facilities, drinking fountains, etc.

**Exchange of Information.** Exchange of information among cer-

## Tufting Machinery

The tufted industry is served by several machinery manufacturers who can supply equipment ranging from the single needle table model machine for putting in a row or guided pattern, to multiple needle table model machines, to carpet tufters which make goods 208 inches wide.

The machines will vary in needles per inch, depth of pile made, speed, design changing mechanism, and can be modified by the machinery maker to suit the individual requirements of the tufter. Many tufters buy the basic machine, and having their own ideas about what equipment should do, modify them in their machine shops.

The small operator can buy table model equipment which will make the complete rug or bedspread, or high-speed equipment can be purchased to make the background tufts, with fancy patterns sewed in later.

Depending on what the tufter wants, he can get a new single-needle table model machine (including motor, table, and creel) for about $300. A 2-needle machine for about $350, a background machine of from 24 to 36 needles (for bedspreads and robes) for from $500 to $600, or he can go as high as $25,000 for the wide carpet tufter plus another $5-6000 for the creel.

One popular type of machine has up to 60 needles in 9½ inches and makes either a looped or a cut pile product. To get equipped on this type machine would cost roughly $1,000 for the tufting machine, $300 for the table, $200 for the creel, $50 for cone holders, and another $1,000 for the tables back of the machine and other incidentals, making the total come to $2,550.

This assumes that the tufter would do his own latexing by hand (for rugs) with a hand roller coater, a broom or mop, or by spraying it on. Dyeing and finishing could be done by a commission laundry.

Should the tufter prefer the carpet trade, more capital investment is required. Machines may vary from 40 inches to 208 inches, costing from about $2600 to $25,000, depending on width.

The creel can be made by the tufter or by the equipment supplier for from $5,000 to $6,000. The latex backing equipment can be purchased or the work may be done on contract. Adequate storage and shipping facilities are necessary.

If the wide machine is used, the tufter also will need enough capital to creel in yarn equal in weight to some six bales of cotton.

Operators and menders usually

*Super Tufter*

**COMPLETE INSTALLATION** of a rug machine, with yarn creel and tubes for carrying yarn from package to machine. The yarn is easily threaded through the tubes with compressed air.

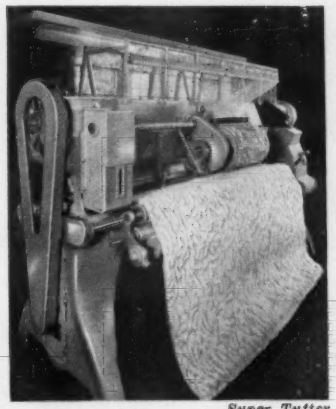
tain tufted plants does exist to some degree, but it is still a touchy subject. Most operators feel that they have something the other fellow does not; few are willing to part with it. Yet, there are plants with an open-door policy for other tufters and even the willingness to show outsiders and potential competitors the intricacies of the mill.

With interest high among would-be tufters, present management is understandably debating the advisability of continuing to fling the doors and secrets open to all.

Tufteds is an industry with both virtues and shortcomings. Its virtues often stem from a natural American trait of fairplay and the desire to be helpful even to competitors. Its shortcomings possibly are due to its not being a closely-knit industry, to the preponderance of small organizations, and heretofore the absence of an industry tradepaper—the essential medium and the accepted method of transmitting industry news and technical information to members of an industry.

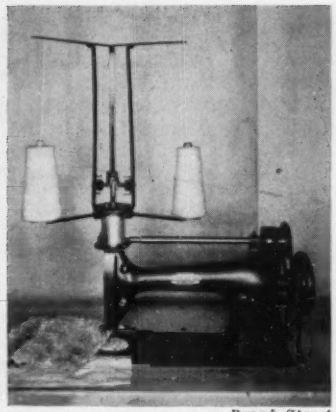
**Little Knowledge of Textiles.** Despite the fact that the basic tufted ingredients are yarns and fabric, tufters apparently have not kept up with progress in textile research and the published information which could prove advantageous to them in the operation of their plants.

Elementary problems can be disastrous for the tufter, such as mixing of yarn from two different suppliers, dyeing characteristics of different cottons, creeling of a supply of last year's and this year's stock, mixing cones of synthetic yarn from several sources, running different twists, etc. But it is up to the supplying yarn mill to point



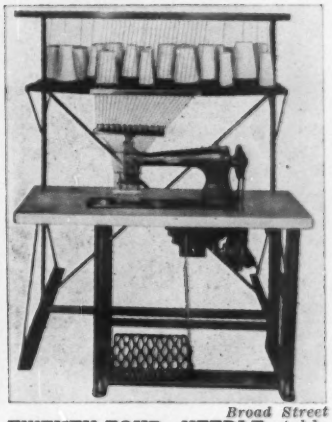
*Super Tufter*

**CARPET TUFTING MACHINE** for manufacture of 76-inch goods. Pattern drum (arrow) permits production of high-and-low pile effects.



*Broad Street*

**CIRCLE AND SCROLL** chenille machine. This machine makes circles or a continuous scroll, and is designed for backgrounds, overlays, and other decorative purposes.



*Broad Street*

**TWENTY-FOUR NEEDLE** table model machine, with individual yarn rack. Machine is powered by a ¾-hp motor.

learn how to run the equipment enough to get by in three or four weeks. The mechanic goes to the factory of the equipment manufacturer to learn his trade or is hijacked from another tufter.

The larger machines have a low percentage of efficiency because of yarn breakage. Supplies for the large machines may run as much as $1,500-2,000 on the cut pile carpet tufter, less on the loop machines which do not have knives. Needles are an item of expense.

The policy of tufting machinery manufacturers is not to take used equipment in on the purchase of new machinery, though some of them will rebuild used equipment. Therefore, much of the used equipment finds its way to smaller tufters.

Some of the roadside operators, in addition to their filling station, novelty shop, and sale of spreads and robes purchased as mill ends, may also pick up a used table model machine for from $65 to $100. With the purchase of a bit of yarn and some crinkle cloth he is in business. He may buy several used machines and farm them out to his neighbors. Or tufted background material can be bought, and he puts in the peacock or other fancy design. Laundering-dyeing is done on commission.

Under these circumstances there is little or no overhead, and the operator makes a profit on his sale of mill ends and his manufacturing. Six of the fancy bedspreads can be made in an 8-hour day. They sell for from $10 to $15 to tourists. The operator can also make arrangements with a sales agent to handle surplus goods that the tourists overlook.

Although the sale of equipment for making bedspreads in this country has decreased, probably because of the high-speed machines turning out so much goods, the foreign market has improved. Makers of large tufting equipment for rugs and carpets do not appear concerned that the future holds a diminishing market for them; they feel that the world market has only been scratched.

Some American tufters prefer that American tufting machinery stay in America, to reduce foreign competition. Equipment manufacturers have no objection to this position provided American tufters take all of their machinery production.

out this basic knowledge to the tufter, or the mill may be blamed for streaks in the tufted product.

Just as circular knitters have studied yarns and garment manufacturers have learned the elements of good and bad cloth, so would the tufters stand to gain by a knowledge of both. The information is there for the taking in the textile industry's own trade publications. In addition to yarn and fabric construction, dyeing principles, and finishing operations, tufters can well apply many of the manufacturing techniques long employed by the textile industry and which are now considered basic in the operation of a textile mill.

**What to Expect if You Supply Yarn and Fabric to Tufters.** The supplying textile mill is usually in the middle in trying to outguess what the tufting industry will need. Perhaps the mill will have no orders for yarn or backing (sheeting, duck), and then the tufters will want both shipped yesterday.

For some textile mills this may not prove dismaying when the warehouse is full, but filling the order against tufting specifications may be an entirely different matter. For instance, a mill which supplies the bedspread industry may be called on to furnish 13 widths and constructions in sheeting, or in 8-ounce rug backing as many as 11 constructions may be ordered; in 10-ounce there could be 8 constructions, plus specialties dreamed up by the tufter.

If the mill chooses to run and stock against prospective orders in such a variety of constructions, well and good, but what the tufter ordered last time may not be repeated. *(Continued on page 116)*

# Dyeing of Tufted Textiles

The basic division of the products of the tufted industry into two distinct classes—lightweight goods, such as robes, spreads, scatter rugs, etc.; and "yardage" goods or heavy carpeting—has produced a corresponding division in the dyeing methods adopted by the industry.

First, the light goods section usually has its dyeing done on commission in dyehouses which have evolved in many cases from their original business as commercial laundries. The dyeing procedure in these laundries, as they are still called, consists of little more than dumping the goods into a tub of dyestuff solution, sloshing them around a little, and hauling them out.

Second, the heavy carpeting section of the industry, usually with more technical knowledge than the lightweight goods division and with its mills often operated by the old-line woven carpet companies, in most cases does its dyeing by the same methods and with the same machinery — dye becks and piece dye kettles—as used for woven carpets.

**Dyeing of Light-Weight Tufted Textiles.** The first overwhelming impression of a textile dyer on viewing the dyeing methods of this section of the industry is their extreme simplicity—a simplicity which is inevitable in view of the nature of the product and the current stage of evolution from laundries to dyehouses. This is not to say that all tufted textile dyehouses will not bear a comparison with conventional mill dyehouses. Many of the larger tufters have operations fully equal to the best practice elsewhere, but that these are the exception rather than the rule the tufted industry itself is first to admit.

Since the industry is still so comparatively new, its dyeing methods and economic structure are still in a state of flux. Many tufting plants which formerly had their dyeing done on commission have built their own dyehouses, and more plan to do so. Conversely, some laundries have integrated backward to establish their own tufting operations.

**The Dyers' Problems.** The dyer of lightweight tufted textiles is often not aware that he has any problems except to match shades and turn out the work. And, judging solely from his financial success to date, no one can deny that he's right.

However, most dyers are aware that competition is tougher than it used to be when anyone with a bathtub in his garage could buy a few pounds of dyestuff and be in business, and it's going to get much tougher. In the future the race will go, literally, to the swiftest, and that in a nutshell gives the chief problem of dyers in this section of the tufted industry.

Lightweight tufted goods are dyed exclusively by batch processes. The textile industry found out long ago that fabrics of low unit value can not be dyed economically by batch methods, and so converted to continuous processes.

The dyer of tufted textiles has so far operated in an economic situation where his simple batch process, inefficient as it is, has not had to compete with a continuous dyeing operation. However, as competition becomes keener, the introduction of continuous dyeing in some forms of lightweight tufted textiles seems inevitable.

There appears to be no technical reason why spreads, robes, etc., can not be dyed continuously, although there is apparently no one doing it. Such a dyeing process would require only relatively minor changes in the industry's operations—for example, cutting the spreads apart after dyeing rather than before.

The absence of a "fluffing" effect in continuous dyeing may be important.

Of course, continuous dyeing is not practical on a small scale, so its introduction will herald the end of large numbers of small commission dyers.

The principal problem of dyers of wide carpeting which is dyed in open width, is side-to-side shading because of the difficulty of maintaining even temperatures and circulation across a 15- or 18-ft wide kettle. This is the same old problem faced by manufacturers of woven carpets dyed in the piece, and no solution appears in sight.

Continuous dyeing of wide carpeting presents a different problem from that of lightweight tufted fabrics. It must be done in open width, and long runs on one color are not often practical. Dyeing experts are recommending continuous vat dyeing by the pad-steam method; 500 to 1000 yards is the minimum economical run.

Dyeing of the newer synthetic fibers under pressure is in its early stages and shows promise. The appearance of carpets dyed in these machines is different from those dyed in a beck, since in these dyeing methods the carpeting is not subjected to the abrasion it undergoes in a beck or kettle.

A problem related to that of continuous dyeing of carpeting is the desire of retail stores for rolls at least 300 yards per dye lot, which is beyond the capacity of a beck.

**Stock Dyeing and Yarn Dyeing.** Very little stock dyeing and yarn dyeing have been done for the tufting industry, principally because of the inventory problem. The same situation holds true for the use of solution dyed synthetics.

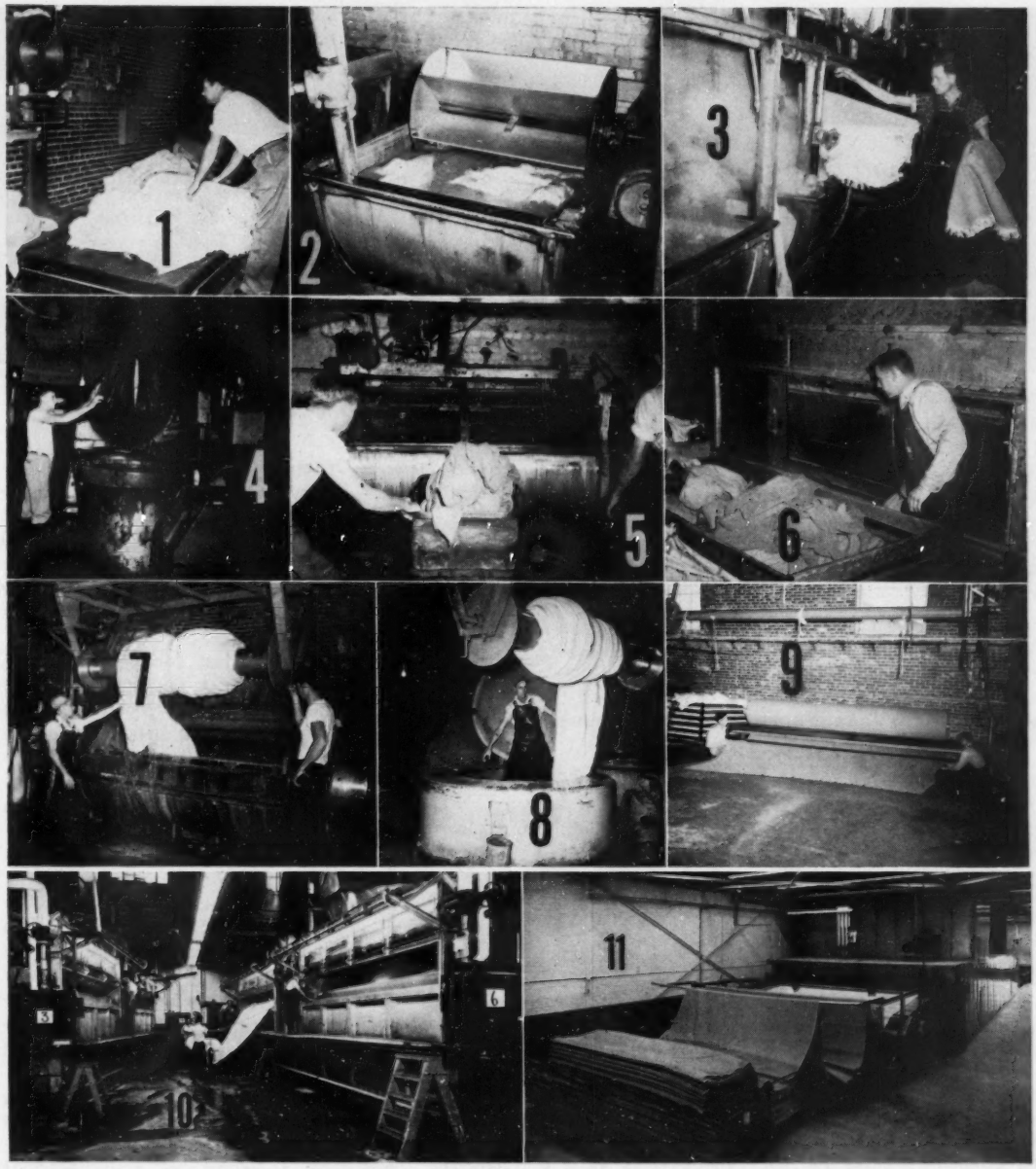
However, some members of the industry hold that colored yarn goods will become increasingly important, particularly with synthetics.

**Explanation of illustrations on opposite page—numbers correspond to those on photos**

**1.** Goods are received from customers tied in bundles according to color to be dyed. Bundles are weighed and separated into lots large enough to make a load for one dyeing machine. Backs of rugs have previously been coated with latex. Laundries try to run as long as possible on one color.

**2.** Most spreads, robes, and small rugs are dyed in paddle machines. Paddles rotate in one direction, at about 24 rpm. First step in dyeing is to fill machine with water, raise to 160 F with steam, and then add dyestuff. Some laundries also use a wetting agent or detergent in the bath.

**3.** Goods are thrown into machine, dry, one at a time. At some laundries all goods are dumped in together. Textile men will probably note with surprise that the goods are thrown in the dyestuff solution, rather than




adding the solution to the bath after the goods are entered. Dyeing cycle is simple: raise to 180 F, run for 10 minutes, add salt, run for 10 minutes, rinse. No temperature recorders or regulators are used.

**4.** Goods are extracted in a squeezer (above), which squeezes them in a rubber diaphragm, or in a centrifugal extractor. More centrifugal extractors are used than pressure or vacuum types.

**5.** Most 9 x 12 rugs and some smaller rugs are dyed in rotary machines. Dyeing procedure is the same as for the paddle machines. Rotary machines require less water, less manpower, and are considered by some to give a better dyeing job than do the paddle-type machines.

**6.** Goods are dried in tumblers, to fluff the pile. Light weight tufted articles are then inspected and returned to customer. If goods have an overlay put on they are returned to the tumbler for refluffing.

**7.** Some laundries dye wide carpeting. Goods are received on large rolls. They are first wound in rope form on a beam, two or three to the beam, and are then loaded into a rotary machine for dyeing.

**8.** Wide carpeting is removed from dyeing machine by rerolling onto beam, and is then extracted in centrifugal extractor.

**9.** After tumble drying, goods are thrown on floor, straightened and wound on rolls.

**10.** Most wide carpeting is dyed in becks. Some is sold in natural color and is only washed. The same machine is used for washing and dyeing. Dye becks take up to 120 yards of carpeting, 15 ft wide. Dyeing cycle is about two hours.

**11.** Dyed carpeting goes to latex coater and into dryer. Small rugs are sprayed with latex, or are coated with a mop or broom.

*A Redfern Hollins photo*

**A FAMILIAR** sight to travelers on U. S. 41 in North Georgia.

*(Continued from page 113)*

Constructions in yarns are even more varied and may mount to 40 or 50 constructions. Entering the picture are natural and synthetic fiber yarns and blends, special put-ups, size of cones, etc. Tufters would like to see the textile mills stock items so they could be purchased off the shelf as in a hardware store, but when one considers that a single tufting carpet machine can process 45,000 pounds or more a week, few mills can go far in stocking many different styles on the chance they may be bought. The mill may have the yarn, but since tufted creels are not standardized, the package may not fit.

The request for yesterday delivery against no order may be due to the industry converting so quickly from the bedspreads to rugs and carpets. A man could buy a couple of small table model machines with little outlay and be in the business. To reduce the investment, the tufter prefers to carry a small inventory of yarn and fabric, making it the job of the textile mill to carry the inventory, or do the guessing as to what will be needed in the rush season of August through January.

That tufters and textile suppliers need a better understanding of each other's problems is indicated by tufters who wanted a quantity of rawstock dyed yarn made up and delivered over a period of 90-120 days, in half dozen or more colors, paid for on delivery but with no particular guarantee that the tufters would take all the stock. The tufters ordered against what they thought they could sell in tufting products, but if the orders failed to come through, then they didn't expect delivery from or payment to the textile mill.

In a lush period the tufters understand the problems of the mill supplier better than in tough times. Some mills have held the tufter's yarn in the warehouse for six months without payment, the

## Synthetic Mill Spins for Tufteds

This mill makes three types of yarns for the tufted industry: (1) all viscose, (2) 90% viscose-10% nylon, and (3) 95% viscose-5% nylon. Construction and putups vary.

The company has never sized or coated any of its yarns because no one in the tufting industry has requested it; this is probably because of the dyeing difficulties after tufting and trouble in fluffing the yarn. The application of finishes would help in spinning but would be more than offset in dyeing problems created for the tufter.

No solution-dyed synthetic fibers are used, primarily because deniers available are not suitable for the type of yarn spun by the mill.

In spinning yarns of blends of various synthetic fibers, the mill always uses the same denier for each fiber unless the customer requests otherwise. Different deniers of the same fiber dye differently. Staple length is from 5 to 7 inches.

Plied yarns are spliced with latex instead of being pieced with knots; yarn can be put up on 9-lb packages. Common counts are 1.80s/2 or 2s/2.

Strength is high; a single yarn, 95% viscose and 5% nylon, .80s cotton count, with 3.9 tpi has a breaking strength of 200 lb (note this is for single end, not skein). This strength also includes the splice. Funnel-type snick plates are used.

This mill is sold well ahead and gives credit to research work for the development of a better product and the sales position of the plant. The mill has had no complaints from streaks in fabrics made from its yarns, and the guarantee is made that any carpets made from the company's yarn will be streak-free.

Every cone of yarn leaving the mill is inspected. Should the cone not meet the mill's quality requirement, it is rewound. If the cone fails the quality inspection the second time, it is not sold through the regular channel.

Saran staple has been tried by the mill, but production was slowed. Also, the saran varied so much from lot to lot that processing procedures had to be changed constantly.

Synthetics are blended before carding; a 20-bale mix is considered small.

*...naturally it's*

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**YARNS AND FABRIC USED IN THE MANUFACTURE OF TUFTED PRODUCTS AND WOVEN AND KNITTED COTTON RUGS AND CARPETING**
**(All figures are in thousands of pounds)**

| Type of yarn or fabric | Jan. 1-June 30, 1954 | July 1-Dec. 31, 1953 | Jan. 1-June 30, 1953 | Jan. 1-Dec. 31, 1952 |
|---|---|---|---|---|
| TOTAL | 87,934 | 86,779 | 72,019 | 139,794 |
| Yarns for tufting | 55,317 | 53,046 | 41,507 | 77,070 |
| Cotton | 43,633 | 47,617 | 38,690 | 74,319 |
| Rayon and acetate | 11,489 | 5,341 | 2,537 | 2,185 |
| Other | 195 | 88 | 280 | 566 |
| Fabric for backing tufted products | 28,467 | 29,101 | 23,963 | 49,375 |
| Cotton duck | 11,229 | 10,779 | 21,764 | 47,500 |
| Cotton sheeting | 11,623 | 14,876 | | |
| Jute fabrics | 4,857 | 2,681 | 2,199 | 1,875 |
| Other | 758 | 765 | | |
| Yarns for woven and knitted cotton rugs and carpeting | 4,150 | 4,632 | 6,549 | 13,349 |
| Cotton yarns | 4,133 | 4,591 | 6,521 | 13,241 |
| Other | 17 | 41 | 28 | 108 |

*Source: Bureau of the Census, Industry Division, Textile Section.*

tufter explaining that he expected to take it "one of these days." On a cotton crop change, if the held yarn were creeled with new cotton and the rug then dyed to a different shade, the bounce-back would be on the mill.

Tufters also prefer that the mill control the amount of yarn on the cones to the inch; diameter control is accepted by the mill, but mention of an up-charge for length control on every cone stops the conversation. Some mills do, as a service to the tufter, put up 10% of the order (over 25,000 lb) on small or short cones for tailing out at the tufting machine. Occasionally the tufter wants to sell his waste and left-over short cones back to the mill.

The major stoppage on a tufting machine is from yarn breakage. Complaints from tufters, therefore, were to mills because of the method of splicing, which is used because knots don't go through the tufting needles. Mills have now learned to splice, and the complaints from tufters can often be traced to the method of splicing at the tufting plant instead of at the textile mill.

A multitude of different blends is used by tufters, and rayon and its blends are gaining ground, especially on a promotional basis. Spinners who have served tufteds for years make almost any blend of any fibers that the tufters require, provided they are given time, but it is thought by some that in the long run cotton will hold its own.

The bane of the tufted industry in cheapening its products affects the supplying textile mill. A good yarn and one that sells may be made for the tufter. Instead of running on the quality yarn, mills contend that the tufter soon insists that the mill do something to the yarn to make it cheaper. Thus, textile mills join the tufters in agreeing that "tufters don't promote, but cheapen, to sell."

In addition to using a cheaper and poorer yarn, tufters can cheapen a product by using a lighter backing, inferior backing, putting in fewer stitches (tufts) per

## A Cotton Yarn Mill Serves Tufters

Points in making a good yarn for tufting are selection of cotton, proper twist so yarn will fluff after tufting, and freedom from gouts and knots.

Most of the production is on 8s/2 or 8s/3. A majority of the yarn is spliced (glued), though yarns finer than 8s are knotted.

Tufters prefer low twist so that the yarn will fluff after tufting, but since the high-speed yardage machines are being used in some tufting plants, they prefer a twist multiple which will permit the machines to get more production; therefore 4.75 tm is now being used.

Cottons are primarily of 15/16-in. staple, but may go to one inch, mixed with waste. To get price on the yarn, some tufters will buy any kind of dirty or spotty cotton. Although no objection is made by tufter to use of flat strips in the yarn, which reduces the price, the tufter loses some of the weight in the washout, where short fibers come out of the yarn.

In addition to gouts, knots, and poor splices in the yarn, tufters complain to the textile mill when there is poor blending of cotton, or of cotton, noils, and strips, because this causes streaks in dyeing, especially on pastel shades. Other complaints come to the textile mill because of tight or loose cones. Occasionally, a different type of wind is requested by the tufter.

This mill's experience has been that tufters usually do not want technical service from the mill, even though the mill is in a position to aid the tufter; visits by the mill's technical personnel are made to tufting plants only to investigate complaints.

Tufters rank low, in this mill's opinion, in knowledge of how to use textiles in tufting. The example was cited of one tufter who had an idea and requested a specialty textile product, but would not advise the mill how it was to be used. The textile plant made up the order exactly as specified, but the product was not used. The experiment proved costly to the tufter; consultation with the textile mill could have prevented the loss.

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inch, reducing the pile height, etc.

Textile mills are genuinely interested in the efficient operation of a tufting plant. Experienced mill men who visit tufters or who supply them with yarn have made constructive suggestions for application of textile devices and methods to tufteds. They met with discouragement for the most part.

One instance was the suggestion that an overhead fan would keep the creel free of lint and reduce machine stoppage. Application was made and the idea proved profitable, except that the fan was not oiled or cleaned, so the advantage was lost.

Some textile mills both spin and tuft, selling the excess yarn to tufters; other textile mills sell yarn and fabric, but do not tuft. This provides the basis for difference of opinion. Those who spin only contend that they should not tuft and be in competition with their customers; to some extent they are supported by the tufters.

The spinner-tufter maintains that since he tufts his own yarn and does so satisfactorily, he knows the problems of the tufter and is therefore able to supply the tufter with the kind of yarn the tufter should have. Inasmuch as the tufter-spinner is making a living selling yarn to the tufted industry, it appears that tufteds as well as spinners are divided on the subject.

Irrespective of the competitive angle, the supplier of yarns and backing is the most vital asset that the tufting industry has. Cooperation of tufters by anticipating their requirements, ordering ahead instead of at the last minute, maintaining a quality product instead of requesting the cheapening of quality, and working with the textile mills on research would be beneficial to both parties.

Textile mills feel that the tufted industry is being penny-wise and pound-foolish when it uses an inferior backing and a poor yarn; the proof of the yarn is in the running so long as it meets the specifications and makes a salable product which wears to suit the consumer.

Some mills do research for tufters or are willing to send technical men to the tufter's plant as a gratis service. They want to serve the tufted industry.

**Tufted Future as Forecast by Textile Men.** If the tufted industry believes that textile men are able observers, it can take this tip: They believe the future will see fewer tufted plants, but with the production of each higher; the trend will be toward a more efficient plant; the former wool weaver who now tufts and knows yarns will plan on a mass production basis; the entire tufted industry will be forced to modernize; textile men who go into tufteds and who know yarns and fabric and control the raw product through to the finished goods will force out of business the horse and buggy operation. Tufteds have not kept up in manufacturing operations with the advances in machinery and supplies; must make progress cost-wise; have been spoiled by making bedspreads and selling them on the highway; had so much profit that they had plenty of leeway for sales; these days are gone forever —so say experienced textile men.

It takes an old maid to advise on how to raise children. With textile men seemingly having the answers for tufters, the logical question may arise, "Should a yarn mill go into the tufting business?" It is just as logical for the answer to be, "Should a tufter go into the yarn business?"

## Tufted Textile Briefs (News and Opinion)

**Chenille Spreads: Dog-Eat-Dog.** The merchandising manager of a large department store comments that the tufted bedspread market has reached the dog-eat-dog stage wherein the manufacturer has forgotten the principles of styling and developing the unusual to sell—instead is interested in whether he can make the same spread as his competitor, or do something to it that will permit him to sell it cheaper.

The store manager believes it is time for chenille spread manufacturers to take stock of their own operations instead of following blindly the lead of their competitors. He suggests that manufacturers find out what the consumer wants and then style a line of goods that will be profitable to both manufacturer and store.

**Tufters Factor.** With very few exceptions, factoring is used by the tufting industry in the handling of accounts receivable. Although many tufting plants are small and are one-man operations, even most of the larger firms use the services of the factors and do not carry their own accounts.

Reasons offered: In smaller plants with little clerical assistance, collection is "out of their line" and the time can be better spent on manufacturing; lack of working capital makes factoring a necessity in some mills; cheaper to factor than to establish and operate a credit department; overhead is lowered in slack times; factors have done a good job for the industry.

**Capitalize on Ingenuity.** One mill has devised a way to make rugs entirely different from other tufted rugs, and has patented the process. All machinery is converted by the mill from basic tufting machinery supplied by a machinery manufacturer. This ingenuity is paying off for the plant, which has lost no time in further capitalizing on its efforts through advanced methods of merchandising.

**Bedspread Cheapening.** With competition strong and pressure from the stores for ever-lower prices, some in the tufted bedspread industry went to cheaper and lighter sheeting (backing). This did not help the reputation of the tufted bedspread in the eyes of the consumer, though she could save in her purchase.

Recognizing this trend to cheapness, there were those in the bedspread industry who began styling and conducting research in cooperation with the mills. Today,

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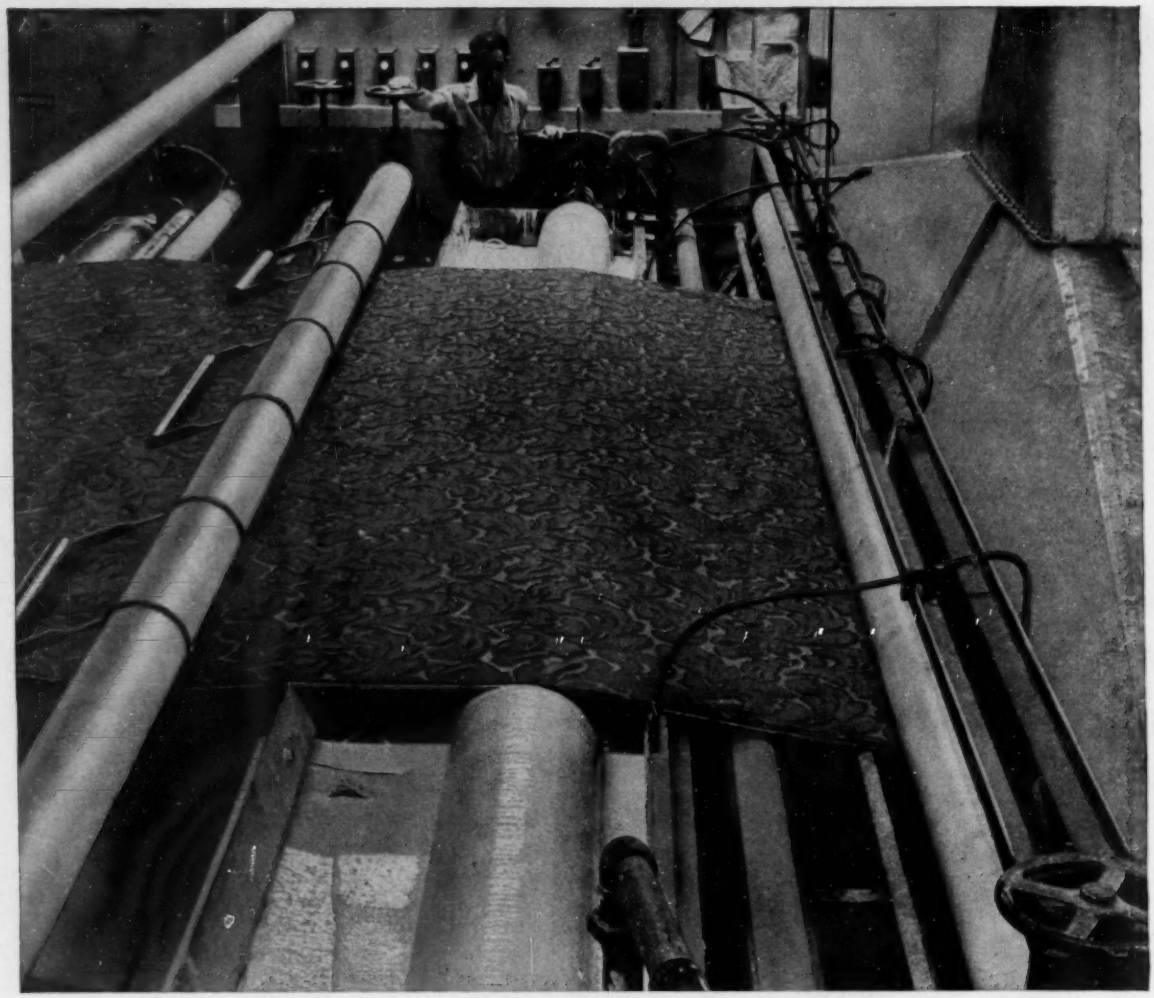

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# Fact:

## Test Proves Westinghouse PRECIPITRON® Removes Over 5 Times More Airborne Dirt

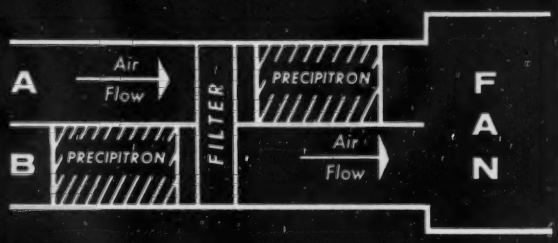


FIGURE 1

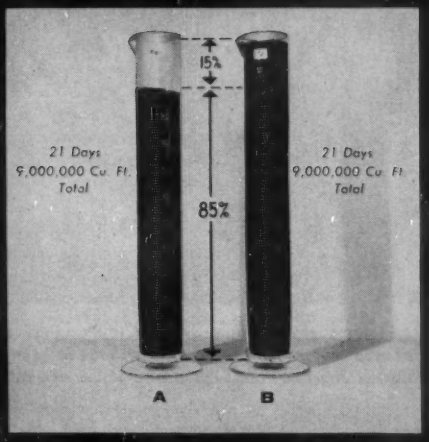


FIGURE 2

Dirt scraped from PRECIPITRON cells

**How much better is PRECIPITRON Electronic Air Cleaning for removing dirt particles from air for ventilating and air conditioning?** The answer is shown by this dramatic research test, comparing the performance of a conventional mechanical air filter with PRECIPITRON.

In the test, equal quantities of outdoor air were drawn through two identical channels as shown in Figure 1. In Channel A, air was first filtered and then PRECIPITRON-cleaned. A duplicate filter was placed in Channel B after the PRECIPITRON to balance the air flow. It did not retain any measurable amount of dirt.

**After 21 days of operation, a total of 9,000,000 cubic feet of air had passed through each channel.** The accumulated dirt was recovered from the PRECIPITRON collector cells in each channel, and carefully weighed.

In Figure 2, Column B indicates amount of airborne dust and dirt removed by the PRECIPITRON. In Channel A (*shown by Column A*), **only 15% of the dirt was removed by the mechanical filter.**

***85% passed through and was trapped by the PRECIPITRON—over 5 times as much, and that portion contained damaging submicroscopic particles.***

### MORE FACTS?

Call your nearest Westinghouse-Sturtevant Sales Engineer . . . he's the "Man with the Facts" on electronic air cleaning . . . or fill in the coupon below.

**WESTINGHOUSE AIR HANDLING**

**YOU CAN BE SURE... IF IT'S**

**Westinghouse**

J-80442

Westinghouse Electric Corporation
Sturtevant Division, Dept. 13E
Hyde Park, Boston 36, Mass.

Please send more facts on your PRECIPITRON.

NAME AND TITLE .....

COMPANY .....

CITY ..... STATE .....

some of the mills making spreads to serve the Cadillac trade use backing that is comparable in cost and quality to fine drapery fabric.

**Wholesaler Views the Rug Market.** Rugs of saran are made on tufting machines, but this house does not carry them because of saran's low melting point—the house considers them dangerous from this standpoint.

The average woman who comes into the store to buy a rug or carpet does not care whether it is tufted or woven; she sees what she wants, likes it, and buys it. Usually the same price rug (tufted or woven) has a deeper pile in the tufted product and presents a more

## Cinderella Is Not Dead, But She's Mighty Tired

Mills have been known even of recent date to go into the tufting business with an investment of less than a thousand dollars and be so successful that they soon get the large high-speed machines, later adding their own finishing equipment.

It is still possible (but not necessarily advisable) for a tufting plant to begin on a small outlay. Few employees are required. One person can run a table model tufter, and on the larger machines mills have been known to get by with one operator and a part-time employee to help creel. This is not a highly efficient method.

Some mills have started with a table model tufter and a sewing machine. Dyeing (laundering) was done outside or in inexpensive laundry equipment. The products were sold through an agent who handled a number of accounts, along the highways, or to one or two stores.

Of course, modern methods in larger plants will leave the small tufter unable to meet competition, unless he wishes to become an operator-owner. Many have already quit the small business and gone to work for the larger ones. Some still make a living.

Cinderella is not dead, but she is in an advanced stage of decomposition.

Sealing a Bemis cover is fast and simple. A latex adhesive is brushed through the pores of the uncoated burlap overlap, forming an especially strong seal. The carpet is moved on a lift truck prong that inserts in the core of the roll. Ends of the cover are wire tied.

# Bemis Laminated Shipping Covers will save you labor–time–money and protect your carpets and rugs

Sturdy Bemis Laminated Covers for shipping carpets and rugs are quick and easy to apply . . . so you save labor, time *and* money. The laminated material (burlap and paper laminated with asphalt) comes in sheets or rolls, so you save valuable storage space. The puncture- and moisture-resistant material gives special protection to your carpets and rugs. And the covers fit so snugly that the roll can't telescope and damage the tuft and pile.

Ask for *details* of the benefits you get from Bemis covers.

*Bemis Products for the Carpet and Textile Industry*

Laminated Sheets • Laminated Yardage • Laminated Tubing
Tite-Fit Tubing • Paper Rug Covers • Burlap Piece Goods
Wire Ties and Tying Equipment

Bemis General Offices—St. Louis 2, Mo.

BEMIS BRO BAG CO

# L. F. Dommerich & Co., Inc.

*Executive and General Offices*

271 MADISON AVENUE

NEW YORK 16, N. Y.

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BUSINESS ESTABLISHED 1840

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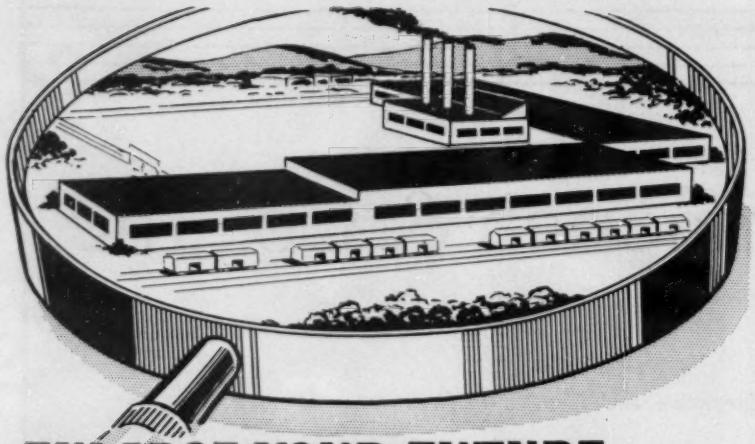

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Factoring relieves you of Credit Decisions—Collection Problems—Bad Debt Losses—Accounts Receivable Bookkeeping.

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We improve your PROFIT picture because overhead is controlled and increased volume returns a greater gross.

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P. O. BOX 1949 CYpress 7302

luxurious appearance and "hand" than the woven rug; therefore about two tufteds are sold to one woven by this house. In other words, it appears to the purchaser that she gets more for her money in tufteds.

**To Sell Tufted Yarn.** An authority within the tufted industry in pointing out the many different specifications and putups for yarn said that if a mill is willing to spend $50,000 and from three to six months learning how to run tufted yarns, the textile plant may be able to get some business. It is not a matter of just selling yarn; the mill must know the problems of tufteds.

**Ingenuity and Promotion Inadequate.** A competent observer feels that the tufted floor covering industry is not wide awake in promotion and merchandising when it fails to use all the sales advantages of color, stripes, and geometric designs in its products.

In the field of public relations and the art of free publicity, individual manufacturers are thought to be well behind other industries. Tufteds are being outsold (consumer dollar basis) because they are reluctant to make an investment in promotion for the long trend; they want an immediate return for the present expenditure.

**Telling the Consumer.** As early as 1949 the recommendation was made after a study of the tufted industry that advertising and merchandising activities be strengthened. Although consumers understood that rugs made from cotton could be laundered in home equipment, then and now the majority are unaware that they are actually improved by laundering, which locks the tufts and tightens the pile yarns.

**Future in Wool Carpeting.** Although some tufting manufacturers believe that this season will see more manufacturers tufting floor covering of wool or wool blends, the future in wool floor covering is not bright and will be only for the very rich, according to F. E. Masland III of C. H. Masland & Sons.

Reasons: Shortage of wool due

# TOP NAMES IN TEXTILE DYEING NOW USE CYCLELOG CONTROLLERS

When leading companies like those listed at the right adopt a new and unique instrument, there must be a good reason. Yet this is only a partial list of today's CycleLog* users!

Whether you're dyeing wool, cotton, rayon, nylon or other synthetics, or blends—piece goods, skeins, tops, packages, raw stock, hosiery, slubs, or even tufted carpet—the CycleLog gives you the most completely automatic control ever developed.

You can control from a distant dye house office, or at the kettle. No matter what your dyeing temperature schedule may be, it is easily and precisely set up, in a matter of seconds, by turning the knobs on the face of the instrument. No cams! And pushing a button starts, or repeats, any cycle.

Write for Data Bulletin 220-70, and let us make recommendations for your particular problem. The Foxboro Company, 486 Neponset Avenue, Foxboro, Mass., U.S.A.

* TRADE MARK

**A. & M. Karagheusian, Inc.**
**Alexander Smith, Inc.**
**Bachmann Uxbridge Worsted Corp. (Uxbridge Worsted Co.)**
**Barre Wool Combing Co., Ltd.**
**E. T. Barwick Mills**
**Bishopville Finishing Company (A Division of Reeves Bros., Inc.)**
**Bradford Dyeing Assn. (U.S.A.)**
**Cabin Crafts, Inc.**
**Chatham Manufacturing Co.**
**Clearwater Finishing Co. (United Merchants and Manufacturers, Inc.)**
**Crown Manufacturing Co.**
**Cyril Johnson Woolen Co.**
**Dan River Mills, Incorporated**
**Davenport Hosiery Mills, Inc.**
**Delta Finishing Co.**
**Dorlexa Dyeing & Finishing Co.**
**Erie Dyeing & Processing Co.**
**Excelsior Finishing Plant (Deering Milliken)**
**F. C. Huyck & Sons (Kenwood Blankets)**
**Fieldcrest Mills**
**Globe Dye Works**
**Goodall-Sanford, Inc.**
**Hans C. Bick Co., Inc.**
**Hayward-Schuster Woolen Mills, Inc.**
**Holly-Knit, Inc. (American Yarn & Processing Co.)**
**Jantzen Knitting Mills**
**Julius Forstmann & Co., Inc.**
**Kendall Mills Division of The Kendall Co.**
**Lippitt Worsted Mills, Inc.**
**M. T. Stevens & Sons Co. (J. P. Stevens & Co., Inc.)**
**Newnan Cotton Mills**
**Pearce Manufacturing Co.**
**Peerless Woolen Mills**
**Pohatcong Hosiery Mills, Inc.**
**Portland Woolen Mills**
**St. Marys Woolen Manufacturing Co.**
**Standard-Coosa-Thatcher Company**
**S. Stroock & Co., Inc.**
**United Piece Dye Works**
**Woonsocket Falls Mill**
**Woonsocket Spinning Co., Inc.**
**Wyandotte Worsted Co.**

**FOXBORO** REG. U. S. PAT. OFF. **CYCLELOG CONTROLLERS**

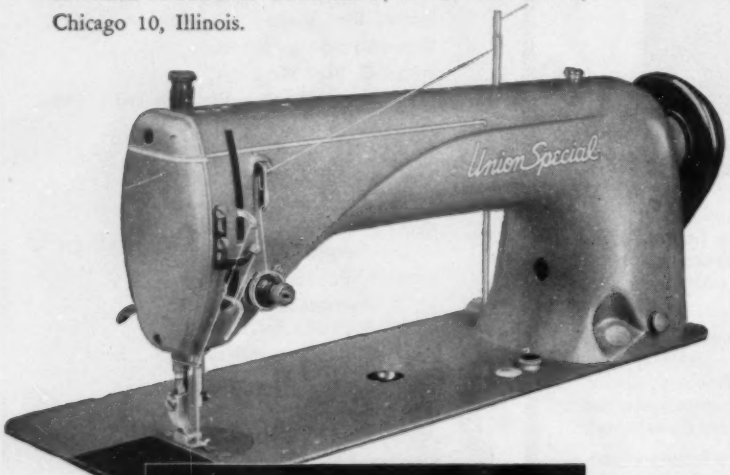
FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

# ENGINEERED

## for your future!

NEVER before has a general purpose LOCKSTITCH machine been so thoroughly *engineered* for the job of handling modern INDUSTRIAL SEWING REQUIREMENTS! And never has a machine offered users more than the new Union Special SIXTY-ONE-FOUR.

*Prove it in your own plant!* This is the machine that is superior for light or heavy weight work — for short runs as well as long... for tacking and back stitching... curved seams and straight runs. *Make this test now.* See your local Union Special representative, or write UNION SPECIAL MACHINE COMPANY, 407 N. Franklin St., Chicago 10, Illinois.




THE NEW 61400 UNION SPECIAL LOCKSTITCH

**FASTEST ACCELERATION!** The SIXTY-ONE-FOUR is without equal in acceleration from zero to maximum rated speed.

**EFFORTLESS SPEED!** New light weight parts make for higher speed—smooth, effortless operation.

**SUPERIOR FEEDING!** Freedom from marking or cutting on finest materials. Precise stitch length control at all speeds. Smooth, flat seams—even on curves.

**ADVANCED PERFORMANCE!** Superior for tacking, back stitching, staying. Highly refined oil control guards against spotting. Better thread handling; minimum breakage.

**RIGHT FOR THE JOB!** Wide choice of sewing combinations to meet every requirement. *For complete information, ask for new Bulletin 258.*

**IT'S THE SIXTY-ONE-FOUR IN '54!**


## Jute Backing for Carpets

Only one company in the U. S. weaves jute backing; the rest comes from Scotland or India. Price depends on weight, the heavier the more expensive.

Although 10-ounce and 10.2-ounce backing are used by carpet tufters, 12 ounces per square yard is the most popular. Commonest widths supplied are 114 in. and 153 in. Requirements as tufted backing are yarn and weaving evenness. Even selvages are very important. The fabric is not sized.

Jute is said by its proponents to be a better backing fabric than cotton for carpets because it gives more body and is preferred by consumers because of its long association with backing in standard woven carpets.

to loss of wool production when sheep were eaten during the war; much carpet wool is grown behind the Iron Curtain; other countries will insist on higher standard of living for their people and will use more wool.

**One Who Has Studied the Tufted Industry Says:** Some of the tufted plants need and seem to want technical help, but they are afraid that if they get outside assistance the information on their plant will be passed from mill to mill. This reluctance to build a solid foundation for the industry, based on the exchange of information, may injure the industry in the long run by the offering of inferior products to the trade.

The industry is not looking far enough into the future to see the possibilities. It should hire a man or an organization to set up an industry technical program of education.

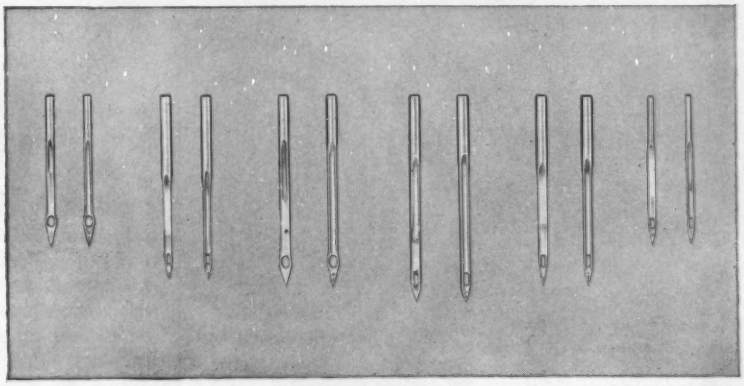
**Doubt Advisability of "Seal of Cleanability" for Carpeting.** The National Institute of Rug Cleaning has announced the Seal of Cleanability, which may be affixed to floor covering which passes the NIRC cleanability test (see TI March '55, p. 71).

Some carpet manufacturers

# Order Your Tufting Needles From

# TORRINGTON

## Where All Needles are Precision-Made



Front and back view of six typical Tufting Needles.

Special design features, including swelled eye to allow for easier passage of yarn, and to reduce machine stoppage due to yarn breakage.

All blades are milled to close tolerances for maximum strength and proper clearance for the looper and cutter.

*Order from your nearest Torrington office.*

**THE TORRINGTON COMPANY**

Torrington, Conn., U.S.A. • Established 1866

*Branches:* New York • Philadelphia • Chicago • Boston • Greensboro, N. C. • St. Louis • Bedford, P.Q. • Toronto, Canada

*Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 62, Calif.

Broadgate House, 7-10 Eldon St., London E. C. 2, England

TRADE MARK ®

frown upon the Seal because they claim it says in effect that any carpet which has the Seal can be cleaned while those which do not cannot be cleaned.

Other doubts by carpet manufacturers: It may be misused at the retail level (oversold); creates doubt in the mind of the consumer; housewife may believe each manufacturer is responsible for carpet, according to her preconceived idea of responsibility; contention between consumer and commercial cleaners; delay in the introduction of new lines by manufacturers; impractical mechanics of the program.

**Tufteds vs. Woven Rugs and Carpets.** From within the tufted industry comes the opinion that the development of the 9-, 12-, and 15-ft carpeting machines brought tufting into "contact" rather than into "competition" with the woven industry. Tufters and weavers are not two groups of fiercely fighting competitors because carpet weavers have become tufters and some tufters are in weaving.

As individual manufacturers, each competes against all for his share of the market, but as a group they are cooperators instead of competitors in two entirely different industries. The idea is to sell more carpets. Tufters never expect to retire the woven carpet industry.

**Foreign Machines and Competition.** Reports are that tufting equipment is being made in at least two foreign countries. These are high speed machines. Instead of the machinery manufacturers competing with each other, they are said to have divided the continents into territories, thereby reducing competition among themselves.

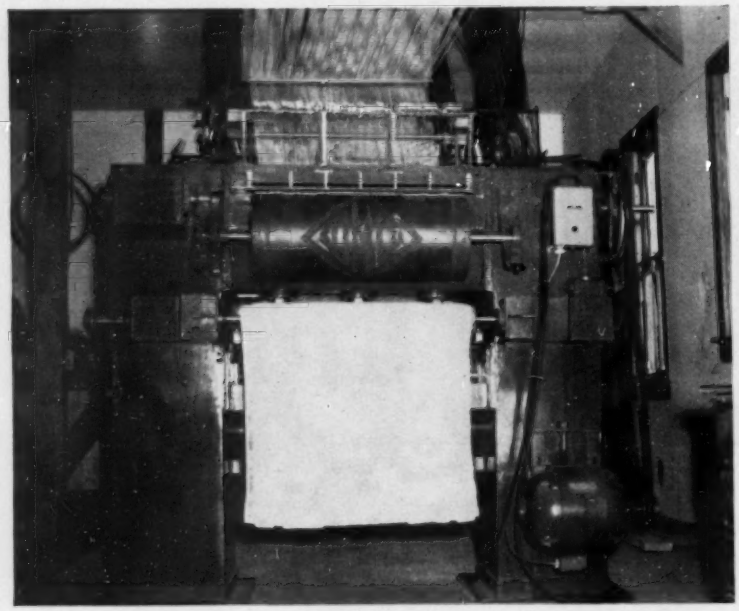
**Inventory and Order Problem.** No sound or basic inventory plan exists for a majority of the tufted bedspread and drapery industry, such as is used in the hardware, shoe, and other industries. Stores fail to give their orders well in advance to manufacturers so that they can plan their production.

This carries back to the textile mill and other suppliers who do not receive their orders for sheeting and yarn in ample time. Thus, the flow of supplies and merchandise from textile mills to tufters to stores becomes a vicious and hectic cycle with each begging for goods "yesterday" which should have been ordered months earlier.

**Tufteds, Present and Future.** An authority within the industry classifies it as having reached Youthful Maturity, still young, eager, and full of oats and vinegar. Its hectic past is well behind, and it is doubtful except in unusual instances that anyone with a little money can go into the tufted business and reap a fortune.

Today's operation requires capital, experienced management, and an organization of specialists in mechanics, materials handling, dyeing, and merchandising.

**Merchandising.** The carpet in-

Now! Designed Carpets!

At last the wish of many carpet buyers for designed carpets has been fulfilled! This new machine will produce plain or patterned loop pile fabric in florals, sculptures and geometrics.

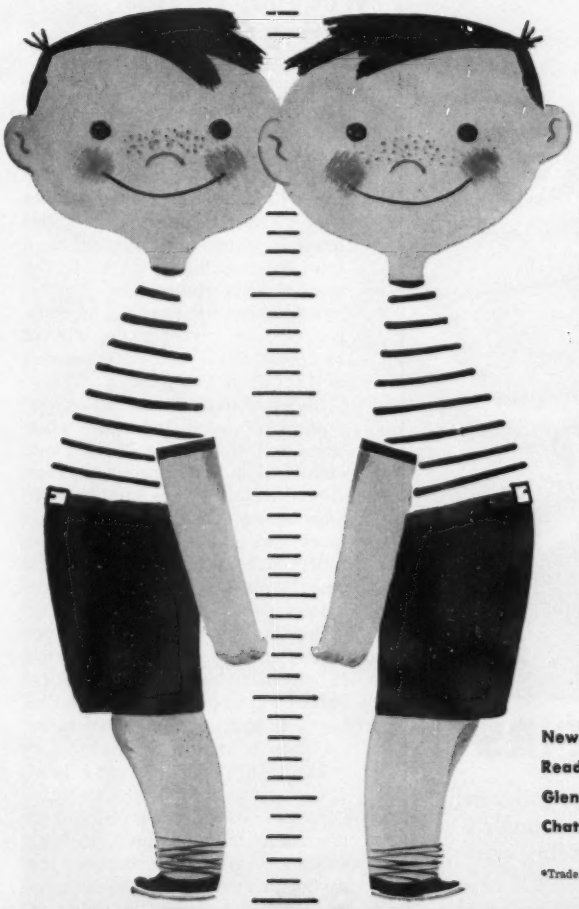
Pattern is first produced on a graphic layout and then is formed from a hard but workable material. This is then secured by a special glue compound to a heavy backing. The complete assembled pattern is attached to a cylinder on the machine that is geared and synchronized with the movement of the needles.

The machine is 100% mechanical, thereby eliminating the need of a skilled electronics technician. Any mechanic can maintain it satisfactorily.

Broad carpet can be produced at about 150 feet an hour, slightly less than standard machines, but still very good. Full details and prices are available on request.

**SOUTHERN MACHINE COMPANY**
**INCORPORATED**
1701-03 ROSSVILLE AVE. CHATTANOOGA 8, TENN.

# YOU and "U.S."– growing fast– together!



In a few short years, your business—tufted products—has GROWN! So has ours—as a supplier of tens of millions of pounds of USPUN Yarns

You've specified USPUN Yarns because they're better and more profitable . . . because of the outstanding service we provide in solving production problems and in delivery.

We have the capacity to meet your requirements and the technical "know-how" to engineer yarns to your specifications.

You're going to grow even more. We want to grow with you. We want to earn more of your business in:

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|---|---|
| Cotton | Tufton* |
| 100% Nylon | Nylon and |
| 100% Viscose | Viscose Blends |

Our sales representatives are able, willing and eager to serve you.

**For prompt action, call your nearest U. S. Royal Sales Office**

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*Trade Mark, American Viscose Corp.

# USPUN® YARNS

US RUBBER

Textile Division

**UNITED STATES RUBBER COMPANY** · Rockefeller Center, New York

dustry (both tufted and woven) has underway a million-dollar-a-year advertising campaign to extend for a minimum of three years in which the advantages of carpet (ease of maintenance, sound absorption, safety and less fatigue, etc.) will be repeatedly emphasized. The long term campaign is designed to do one thing—sell more carpets.

The more carpets sold, the larger part of the consumer's dollar goes into the potential carpet pie. How individual carpet makers get their share of the pie is left to their own ingenuity in advertising and merchandising.

(Note: Success of this campaign will be reflected in demands upon the mills supplying raw materials for the carpet industry.)

**Styling in Bedspreads.** Although the tufted industry is prone to cheapen its products instead of promoting them to sell, some manufacturers have found that style rather than price is the motivation in the homemaker's purchase. Chenille bedspreads may still be found in combination colors and in designs for every taste, but the trend recently has been toward a richer appearance with more complicated stitching, dyed in solid colors. The number of colors has been expanded.

Promising for the future is that

# YARNS THAT RUN . . . FIRST!

You can depend on Candlewick Yarns to run and *run First* when it comes to tufted carpeting. Our quality and service are tops in any type of fiber including synthetics, blends, cottons and wool.

For 18 years, Candlewick has sparked good product ideas, recognized the Tufters problems and offered a "Put-up" for every need. Phone, wire or write for details today.

**CANDLEWICK YARN COMPANY**

YARNS AND CORDAGES

**DALTON, GA.** **TELEPHONE 1332**


## Weaving Versus Tufting Carpets

*(Abstract of an address by F. E. Masland, III, of C. H. Masland & Sons. Masland both weaves and tufts.)*

The tufting machine stitches carpet at a much greater rate than the Wilton or velvet loom weaves carpet, so the amount of direct labor in stitching is smaller than that in weaving a yard, by as much as nine times.

Why doesn't the tufting machine run all the carpet looms out of business? Some authorities say it will. I do not believe it.

Material usage in a tufting operation is very wasteful when compared to a loom. To achieve effects on a tufting machine similar to the hand and appearance accomplished on a loom, you must use more material (tufted fabric has more material in the back than woven; loom weaves material to the surface).

Backing materials in tufting are more expensive; backing in tufted is woven before tufting, backing for woven goods is woven at the loom. It costs less to weave backing than to buy it.

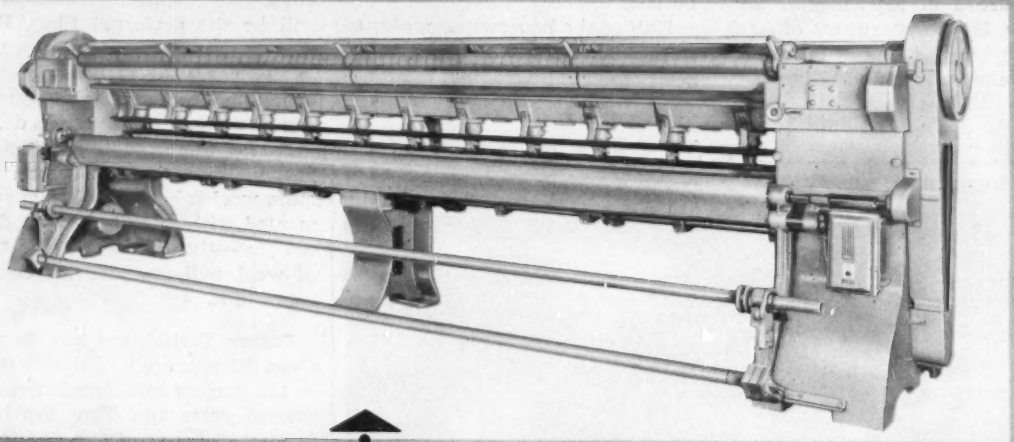
The tufting machine has a large advantage as long as the material used in the face of the fabric is of low unit value; when of high value the wastage overtakes the saving in direct labor. As we progress up the ladder in value of raw material the percentage spread in the finished product is diminished.

Not all the women in this country want to have a plain loop or cut pile piece of merchandise, the basic accomplishment of the tufted operation.

# Super Tufter Yardage Machines

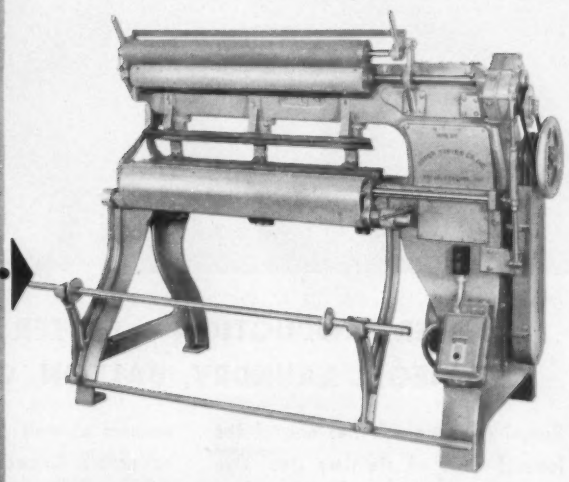
## FOR EVERY TUFTING JOB

# LARGE or SMALL



## MODEL 208

- Sews maximum of 208 inches
- Produces finished carpeting up to 15 feet wide in Cut Pile, Short Loop and Long Loop
- Dual drive connected directly to main shaft
- Positive drive cloth and yarn feed
- With Pattern Control Attachment this machine can reproduce in loop pile any design that can be drawn on paper



## MODEL 40

- Sews maximum of 40 inches
- Used chiefly as a pilot model for testing yarns and backing materials
- Produces stair runners, small throw rugs and bath mats
- Can be opened on one end to allow material to be rerun producing widths up to 120 inches

**Other Super Tufter Yardage Machines**
**Available in 45", 54", 62", 76", 121", and 168" widths**

Super Tufter
MACHINERY COMPANY, INCORPORATED

212 First Avenue, North
Fort Oglethorpe, Georgia

many manufacturers now have their own color charts and exclusive designs. Tufteds now not only blend with the draperies, but with milady's entire color scheme for the room, be it parlor or bath.

**How Homemakers Feel About Tufted Bedspreads.** A survey by the Bureau of Agricultural Economics, U. S. Department of Agriculture, brings these factors to light relative to tufted bedspreads:

Of the housewives questioned, 74% said they prefer and use tufted bedspreads (all income groups, both urban and rural).

Reasons given: Require no ironing, can be washed in washing machine, colorful and picturesque, do not shrink, will not wrinkle, look dressy, and do not pull, rip, or run.

Half of the housewives prefer to buy their spreads and drapes in sets.

**Mill's Reason for Not Supplying Yarn for Tufteds.** A textile plant which is well equipped to furnish synthetic yarns and blends to tufters offered this reason for not doing so: Rayon now being used was chosen for tufteds because wool does not tuft properly on the highspeed machines; the mill believes that when possible wool will be the preferred fiber. Further, the textile plant believes that in five years the carpet mills will be making their own tufting yarns, just as woven carpet makers do.

Part of this jibes with tufted industry thinking that even now more wool is being used or experimented with in tufteds. Part does not jibe—that the world shortage of wool will preclude large-scale usage of it.

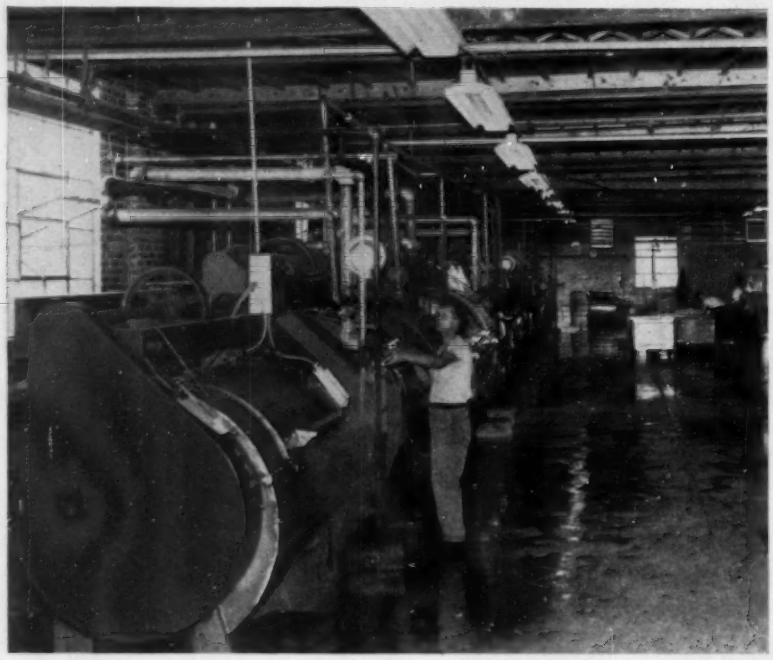
**Future Technicians and Executives.** Tufteds are no longer a flash in the pan, as considered by some several years ago. They are here to stay. Because of the dearth of trained technicians at present, and looking to the need for technicians and executives in the future, at least one large tufter is sponsoring college scholarships. The program is primarily designed for the children of employees.

**New Markets.** Just as the original bedspread manufacturers migrated into the manufacture of bath sets, draperies, and pot holders, so the rug and carpet manufacturers have explored the field of tufted goods in such fields as the automotive industry. Even as of now, in your new car your feet may rest on a tufted floor covering. Soon your back may rest against tufted upholstery.

**Tufting Will Expand.** In the next few years the tufting industry will continue its expansion without slowing its rate of growth; will develop more new products, possibly in different fields not now touched by the industry; will improve machinery and techniques; and will develop methods and machines that will revolutionize dyeing and finishing processes in the industry, says one member of present-day tufting management.

Today tufted floor coverings are pouring into the automotive in-

*(Continued on page 138-C)*



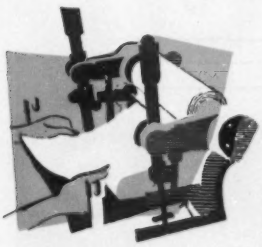
## HIGHER PRODUCTION — BETTER RESULTS AT RIEGEL LAUNDRY, DALTON, GEORGIA

Riegel Laundry now has one of the longest lines of stainless steel dye washers and extractors in the country.

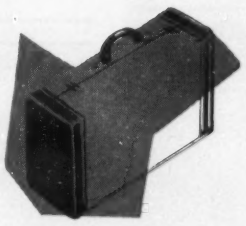
The washers and extractors, supplied by "Wink" Davis of J. R. Cheshire Co., have increased production and quality substantially. One 48 x 96 was purchased originally, and based on its performance, orders have been placed and filled for a number of 48 x 96 and 60 x 120 washers as well as several 72 x 28 extractors. Capacity per unit has increased with each addition to the line.

A large installation has also been made recently at a big Southern textile mill, name upon request.

Further information concerning the complete Cheshire line may be obtained by contacting "Wink" Davis, 379 Piedmont Ave. N. E., Atlanta, Ga. Phone LAmar 0477.

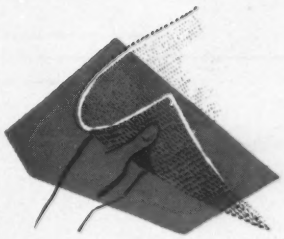


for paper treatment?

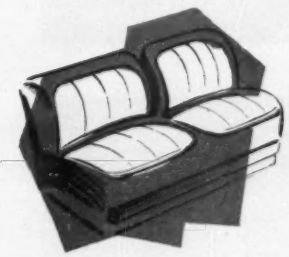


for leather finishing?

for water-based paints?

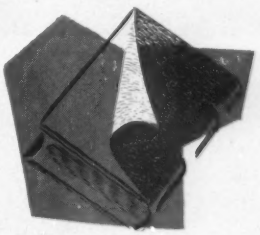


for rug backing?



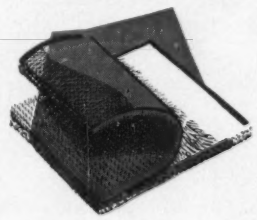
for textile sizing?

# Have you tried a NAUGATUCK LATEX or LOTOL?



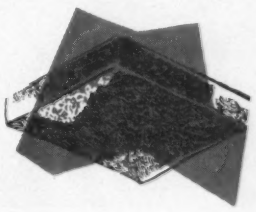
for bonding wood, leather, fiber?

for dipped products?



for binding flooring, cushioning?

for pressure-sensitive tapes?



for bonding curled hair or vegetable fibers?

There's practically no end to the ways in which custom-compounded Naugatuck latices have enabled industrial chemists to improve their products...reduce their product costs...and often do *both* at the same time.

Since Naugatuck Chemical first made latex a practical material of industry, over 30 years ago, a tremendous variety of *new* latices have been developed. New compounding techniques have been introduced. Untold numbers of new applications have been discovered. The use of these versatile natural and man-made materials has extended into practically every field of industry.

*And today, as through the years, Naugatuck Chemical remains the world's leader in the development, compounding, and supply of latex for every commercial need.*

*Consider a Naugatuck latex or Lotol®* for the products *you* manufacture. There's a better than good chance a Naugatuck latex or specially blended Lotol compound is just the answer you have been *looking* for. Send the coupon below today.

Naugatuck Chemical

Division of United States Rubber Company

Naugatuck, Connecticut

US RUBBER

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Please send me further information on the use of latex for_____

Name_____

Title_____

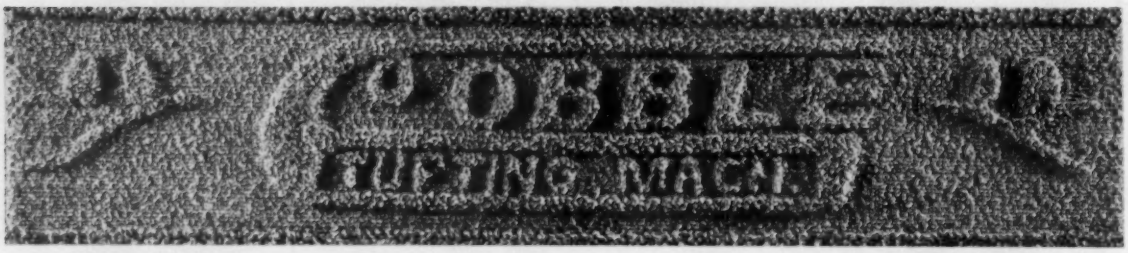
Company_____

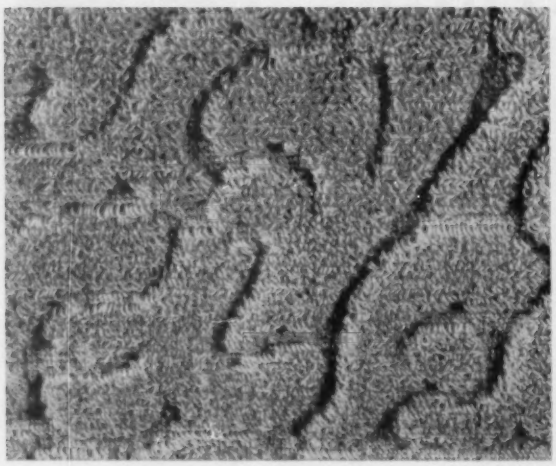
Address_____

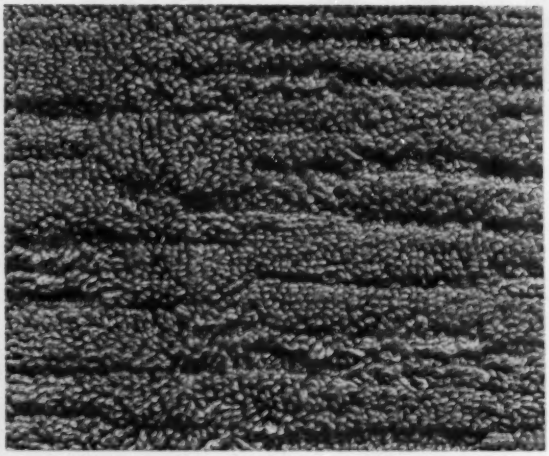
City_____ Zone____ State_____

TI

COBBLE
TUFTING MACHINES







# COBBLE TUFTING MACHINES ARE CREATING A REVOLUTION IN CARPETING!

The illustrations shown on this page are made from unretouched photographs and are samples of tufted carpet produced on Cobble Tufting Machines equipped with Automatic Pattern Attachments.* At top is shown an example of Special Design; upper right is Random Textured Pattern; upper left is Floral Pattern and at left is Geometric Pattern. The ultimate in yarn control, as evidenced by these various patterns, is obtainable with these Automatic Attachments.

The development and perfection of this idea by Cobble Brothers Machinery Company opens up new vistas to the rapidly expanding tufting industry.

*PATENT APPLIED FOR

*Cobble Bros. Machinery Co.*

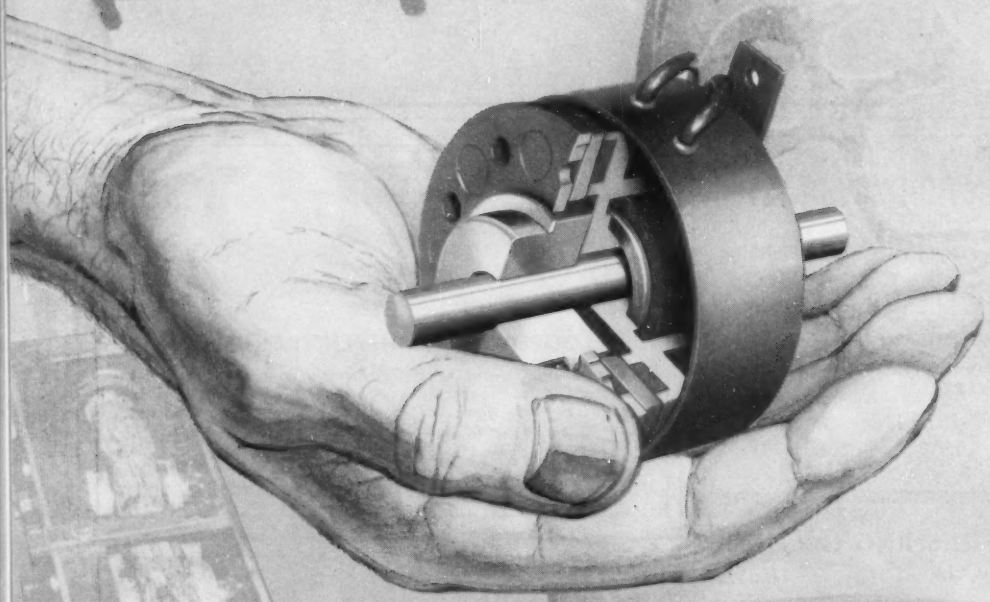
**INCORPORATED**

**CHATTANOOGA 8, TENNESSEE**

# WARNER ELECTRIC CLUTCHES

## permit high speed tufting by "Braille"

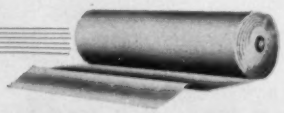
Here's how *electric* clutches help make textile machines *think* and act automatically. In tufting, small fingers "feel" the rug pattern on a revolving roll, send information to control panel from which actuating impulses are relayed to clutches controlling yarn feed. Pile heights are thus controlled by speeding up or slowing down amount of yarn fed to tufting needles, depending on particular clutch engaged. It's simple, accurate, foolproof—only one example of versatile control functions now possible with Warner Electric Brakes and Clutches.



WARNER

Roll pattern attachment for one model Cobble Bros. carpet tufting machine uses 108 Warner SF-250 Electric Clutches to control yarn feed.

**Warner Electric Brake & Clutch Company, Beloit, Wis.**



# J. L. KNIGHT & COMPANY

Mill Representative

Dalton, Georgia — Telephone 1451

**Quality Cotton and Synthetic Yarns**

## *Blends and Raw Stock Dyed*

Our service assures you of full production with minimum inventories, space and capital

Immediate Delivery — Inquiries Invited

Jim Knight — Don Russell

knight

## INCREASING PRODUCTION %40 - %100

By early fall, production at Dalton Carpet Finishing Co., Inc., Dalton Carpet Coating Co., Inc., and Dalton Spread Laundry, Inc., will be increased %40 to %100.

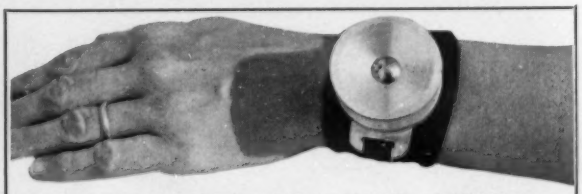
Expert operators, modern equipment, latest techniques and experienced personnel assure you of the finest service available. Call us today . . . we are anxious to serve you!

**DALTON CARPET FINISHING CO., INC.**
114 E. WALNUT ST., DALTON, GA. TEL. 1766

**DALTON CARPET COATING CO., INC.**
110 E. WALNUT ST., DALTON, GA. TEL. 1766

**DALTON SPREAD LAUNDRY, INC.**
411 McCAMY ST., DALTON, GA. TEL. 1320

*"THERE IS NO SUBSTITUTE FOR EXPERIENCE"*



**LOOPER LATEX DISPENSING DEVICE**

In addition to the latex dispenser shown above, Looper manufactures G.L. 50 "Looper Splice" compound for cotton and viscose, and rug mending guns. You *know* the product is good when it's made by Looper, inventor of the original chenille machine.

**GLENN LOOPER MFG. COMPANY**
P. O. BOX 135 DALTON, GEORGIA

## TEXTILE INDUSTRIES

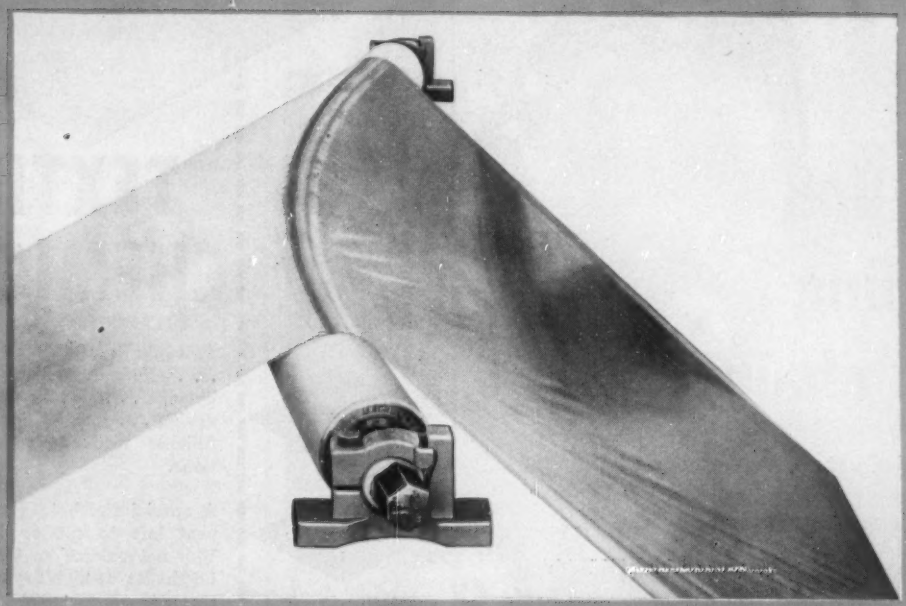
offers you practical help and advice in production problems throughout the mill. Use the handy form on Page 248 to order or reorder your subscription today!

Mount Hope SYSTEM

INCORPORATES

# "Free Wheeling" Expanders

## TO HELP YOU BEAT COMPETITION!



**THE MOUNT HOPE "FREE WHEELING" EXPANDER**
**holds your fabric to full width and free of wrinkles.**

**For Maximum Production— Lower Cost - Minimum Seconds - USE the Complete MOUNT HOPE SYSTEM**

**Write for a Production Cost Survey of your plant at no obligation.**

*Originator of Modern Expanders*

*Leader in Cloth, Paper and Plastic Handling*

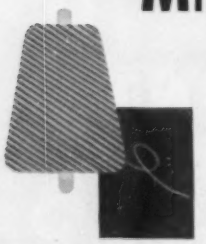
**Another Service To You!**

New Mount Hope Southern Repair Shop to give you fast, convenient service.

MOUNT HOPE
MACHINERY COMPANY
15 FIFTH STREET, TAUNTON, MASS.

# is this link snarling your chain?

How strong *is* the "finance-and-credit" link in your operating chain? Is it weak . . . or is it fouling the other vital links of production, merchandising, selling, etc.? If it is, then may we suggest that a conference with us may be rewarding. That's our business, you know . . . finance and credit.



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**380 Fourth Avenue,**
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# ADD SALES MAGIC

TO YOUR LINE WITH

# MACCO

FOR DYEING BLEACHING FINISHING

## TEXTILE CHEMICALS

**DISPERSING AGENT N. F. L.** — Prevents crocking of naphthols . . . eliminates streaks on direct dyeings . . . acts as a retardant in dyeing . . . splendid for vats. Resin finishes made to your specifications.

**CLAROFIN R-40** — A special finish to give a permanent loft to cut or looped pile. Will not oxidize on white or pastel shades at high drying temperatures.

**MACCO R-40 SPECIAL** — A synthetic resin base product that prevents soil and dirt absorption.

**CHLORAL** — A chlorinated solvent that scours and bleaches in the same bath — chlorine or peroxide.

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**MACCO**

W. S. MCNAB • DAN WALLER • JACK MCNAB

30 YEARS EXPERIENCE AT YOUR SERVICE

dustry. Tufted upholstery fabrics could be another big market; improvements in machinery, experiments in designing and styling, and use of new fibers and yarns offer great possibilities.

The industry has not reached a plateau where it will level off for a period of rest. But the industry needs research and development.

## Floor Covering Care and Education of the Public and Commercial Cleaners

In some sections of Africa the cleaning of rugs made from camel and sheep wool is accomplished by plunging them into the surf and scrubbing them with beach sand; the Persians of long ago dunked their rugs into sandy streams and agitated them with their feet.

That all rugs cannot be cleaned alike or by these primitive procedures is recognized by manufacturers of today, so they have supported research in rug cleaning methods, which results are furnished to all commercial rug cleaners and the general public via technical data sheets and interestingly prepared brochures.

One brochure is "How to Clean Tufted Cotton Carpet on Location," the results of an 18-month research study sponsored by the National Institute of Rug Cleaning and a group of tufters.

General conclusions of the report are that (1) a very dirty tufted cotton carpet cannot be cleaned satisfactorily by even the best on-location methods developed to date, but can be taken up and cleaned satisfactorily in a plant, (2) pastels and royal hues show dirt more than other shades . . . and need to be cleaned more frequently, and (3) a better-grade carpet will clean more easily than a promotional grade . . . an increase in tuft density of 5 or 10% will make an appreciable difference in cleanability.

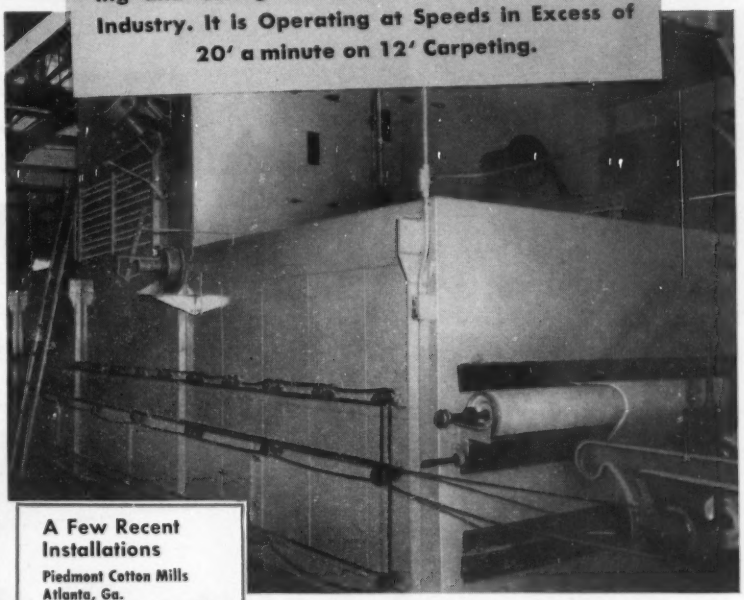
The brochure also includes ample technical information for the commercial cleaner, while Mrs. Consumer gets "Tips on Cleaning Floor Coverings and First Aid Treatment for Rug and Carpet Mishaps" (one million copies printed).


FIRST . . . FOR DRYING and CURING

ROSS

OVENS FOR TUFTED TEXTILES

One of the First Gas-Fired Three-Pass Latex Drying and Curing Ovens Furnished in the Tufted Industry. It is Operating at Speeds in Excess of 20' a minute on 12' Carpeting.



A Few Recent Installations

Piedmont Cotton Mills
Atlanta, Ga.
*Latex Drying & Curing Unit*

Katherine Rug Mills
Dalton, Ga.
*Latex Drying & Curing Unit*

Dalton Carpet Coating Co.
Dalton, Ga.
*Latex Drying & Curing Oven*

Dalton Carpet Finishing Co.
Dalton, Ga.
*Festoon Dryer for Carpeting*

Calloway Mills
LaGrange, Ga.
*Latex Drying & Curing Oven and Wet Rug Dryer*

Alexander Smith
Cartersville, Ga.
*Combination Latex Drying & Curing Oven and Wet Rug Dryer*

3 TYPES OF ROSS OVENS AVAILABLE

There are ROSS Ovens of various types—for curing latex rug backing; for drying carpet after dyeing and for loop drying after rugs have been dyed and washed. For any drying or curing problem in connection with Tufted Textiles—consult ROSS.

*Write For Our Bulletin No. 31-I*

J. O. ROSS ENGINEERING CORPORATION

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BOSTON, MASS.—79 Milk Street
CHICAGO, ILL.—201 North Wells Street
NEW YORK, N. Y.—444 Madison Avenue
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Los Angeles
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The Textile Industry's

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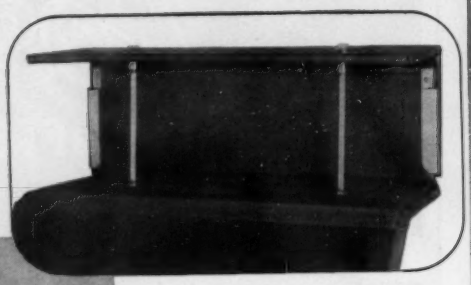
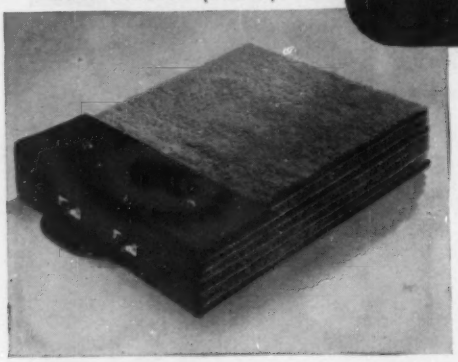
Expandable
Heavy Duty Post Binder
with Handle (Right)

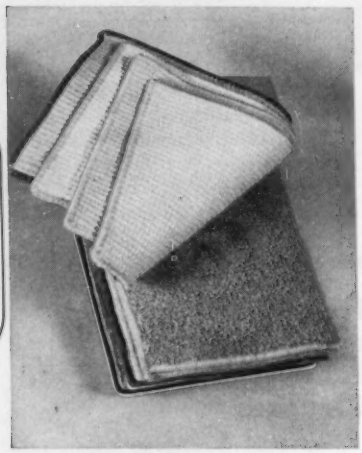
***Designed for display of larger samples in order to show larger patterns.***



Heavy Duty Post Binder
with Handle (Below)



Post Binder



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ANY STYLE OF BINDER
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GENERAL BINDERY SERVICES

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# A Salute to the TUFTED TEXTILE INDUSTRY

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***Factoring Division***

**TRUST COMPANY OF GEORGIA**

**ATLANTA, GEORGIA**

MEMBER: FEDERAL RESERVE SYSTEM • FEDERAL DEPOSIT INSURANCE CORPORATION



*For further information use Handy Return Card, Page 227*

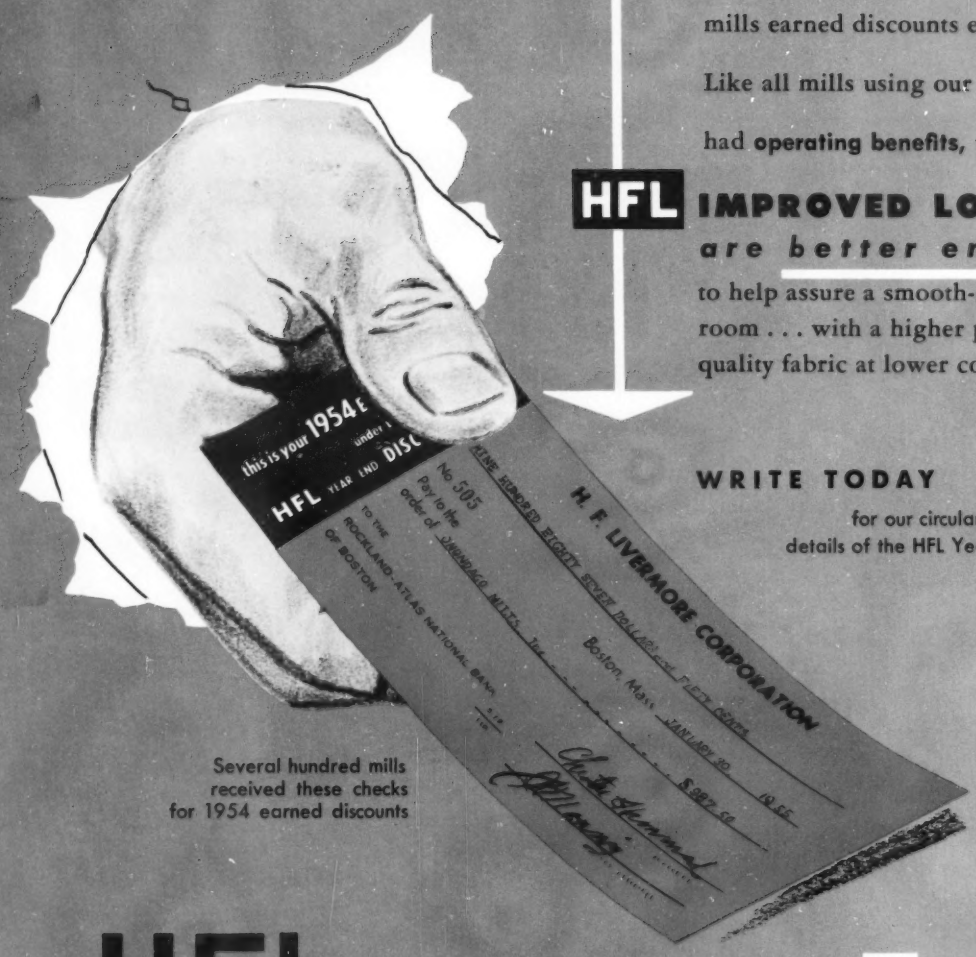
you can gain **ADDITIONAL SAVINGS** under the

# HFL YEAR-END DISCOUNT PLAN

This novel Plan, inaugurated last year, was received with great interest by the mills. And why wouldn't it? — for in 1954 some mills earned discounts exceeding $1,000.00! Like all mills using our parts, those mills had **operating benefits,** too, because

**HFL IMPROVED LOOM PARTS**
***are better engineered***

to help assure a smooth-running weave room . . . with a higher production of first quality fabric at lower cost per yard!


this is your 1954 e
HFL YEAR END DISC
No. 5105
Pay to the order of
TO THE ROCKLAND-ATLAS NATIONAL BANK OF BOSTON
H. F. LIVERMORE CORPORATION

Several hundred mills received these checks for 1954 earned discounts

**WRITE TODAY**

for our circular, giving full details of the HFL Year-End Discount Plan.

**HFL**
IMPROVED LOOM PARTS

**H. F. LIVERMORE CORPORATION**

*ESTABLISHED 1887*

EXECUTIVE OFFICES & PLANT
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SOUTHERN DIVISION
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Portrait by Fabian Bachrach

# Bell Aircraft has 13,000 payroll savers

"From every point of view, the purchase of U. S. Savings Bonds contributes to the soundness of our economy and to the individual security of our citizens. I am proud that at Bell Aircraft our employees are helping to strengthen the national economy and their own future security through the Payroll Savings Plan.

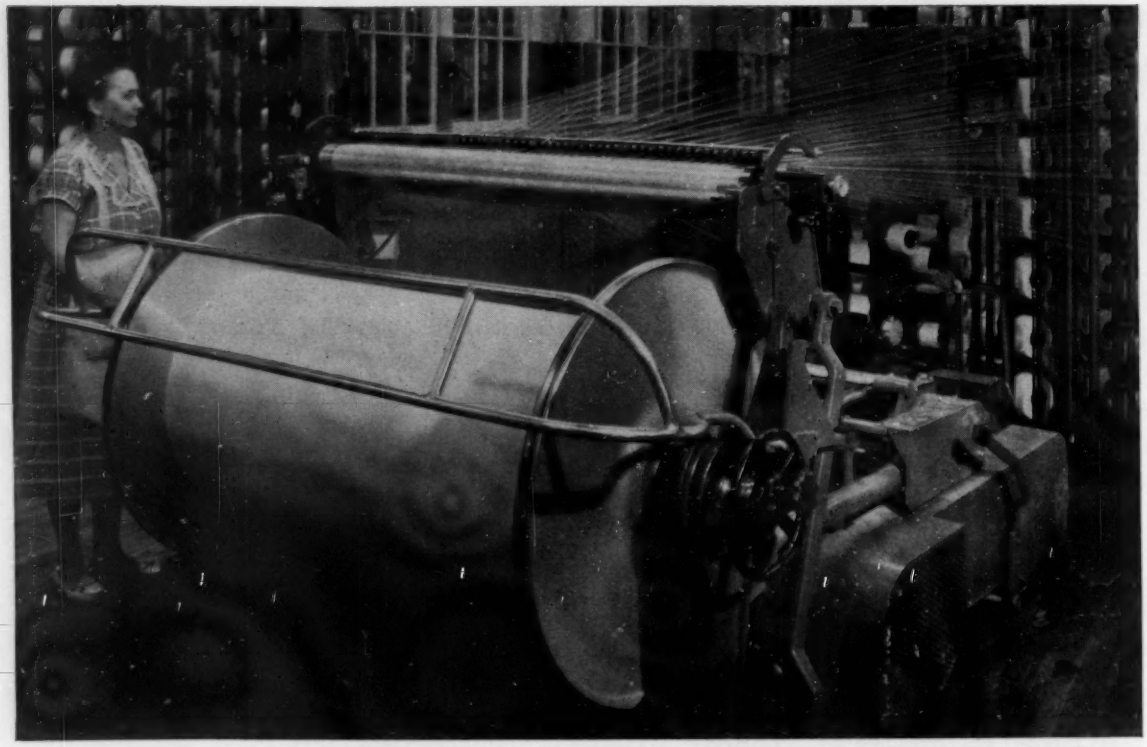
"In a recent campaign Bell employees achieved a record of nearly 99% participation in the Payroll Savings Plan, bringing to 13,000 the total number of our employees who are saving systematically through the regular purchase of Savings Bonds."

LARRY BELL, *President Bell Aircraft Corporation*

If your company does not have the Payroll Savings Plan, or if you have the Plan and employee participation is less than 50%—get in touch with Savings Bond Division, U. S. Treasury Department, Washington, D. C. Your State Director, U. S. Treasury Department, will be glad to help you install a plan or show you how easy it is to build employee participation in your present plan.

*The United States Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and*

**TEXTILE INDUSTRIES**



# HAYES has done it again!

***Here is the new giant 38" x 54½" Aluminum Section Beam for cotton and spuns!*** This beam, for the first time in the textile industry, is now going into leading cotton mills to *improve their efficiency, cut costs,* and *increase profits.* "Picture by courtesy of Laurens Mills, for whom Derring, Milliken and Co., Inc., is selling agency."

One of these 38" beams does the work of two 28" beams, —saving one-half the handling time.

**LIGHTWEIGHT**—207 lbs.

**CAPACITY**—Net weight of yarn 1050 lbs.

**SMOOTH and TRUE-RUNNING**—No splintering, no distortion due to atmospheric changes, throughout the life of the beam. Insures better warps.

**BALANCE**—Beam is balanced at Hayes Industries to run up to 1000 yards per minute without objectionable vibration.

**REDUCES COST**—You *buy* half as many beams. You *handle* half as many beams. Simple assembly for low maintenance cost should damage ever occur. Beams shipped knocked down to reduce shipping costs and storage space.

**ADAPTABILITY**—Fits all current types of warpers.

***Send Coupon Today For Complete Information***

**HAYES INDUSTRIES, INC.**
**JACKSON, MICHIGAN**

***THE WORLD'S LARGEST PRODUCER OF LIGHT METAL BEAMS***

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Greensboro, N. C.

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Eastern Representative:
J. Paul Laird
Philadelphia, Pa.

Canadian Representative:
J. S. Fallow & Co.
Montreal, Canada

***HAYES INDUSTRIES, INC., Jackson, Michigan***

( ) Send detailed information on the new 38" beam.
( ) Have representative call to give me data on the 38" beam.
I would specially like to know

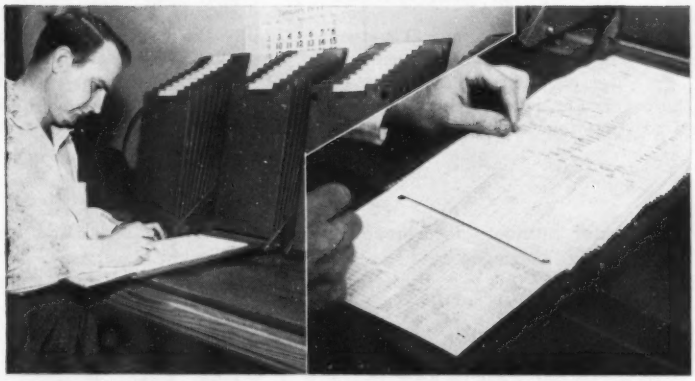
.....

.....

Name .....
Title .....
Company .....
Address .....
City ..... State .....

**Management at A. M. Smyre Mfg. Co. recognized the problem and did something about it . . . this**

# SYSTEM CUT SUPPLY ROOM COSTS



**SUPPLY RECORDS** are kept in Postindex visible accounting file.

*Staff Prepared*
EXCLUSIVE

SEVERAL years ago, A. M. Smyre Manufacturing Company, Gastonia, N. C., discovered that insufficient records and management of supply inventories was the source of considerable financial loss.

The problem was recognized, and the comptroller, M. T. Cameron, instigated a perpetual inventory system to account for all supplies, and a central supply room was organized with orderly labeled bins and locations for different kinds of supplies to serve the three mills at Ranlo, N. C. A competent man was placed in charge of the supply room, and all supplies are now purchased by the supply room manager, who keeps a perpetual inventory at hand for ready reference.

**How the Inventory Works.** When a part is purchased and put in stock, an inventory card is noted with purchase order number, date received, quantity, price, and location in the supply room.

When a part is requisitioned by an overseer or section man (usually the only ones authorized), the requisition form is numbered and filed. These requisition forms are examined each day to adjust the perpetual inventory file.

**Costs.** The perpetual inventory cards also show the cost of the part, and these figures are used to determine total supply costs. To determine supply costs for each department, the information on the requisition form (department identification) and the information on the inventory card are used to figure costs on a monthly basis. These figures are entered in a separate ledger. A Postindex visible accounting file is used to keep the inventory cards in order and easily accessible.

**Assures Receipt.** To assure receipt of items at the mill for which purchase orders have been issued,

# Grey Goods Mill Managers — Here Are Some Good Tips from a Finisher

**By Leonard W. England***
*Production Manager*
*Union Bleachery*

Neps cause more difficulty and affect the over-all general appearance of finished goods more than all other defects combined.

Certain colors show up neps more than others — pastel and dark colors to a much lesser degree than medium shades. Different types of dyestuffs also show up the neppy condition of fabrics to a varying degree. Sulfur colors are probably the worst offenders. Neppy goods are not classified as seconds in our plant, but the condition is brought to the attention of customers.

**Reed Marks or Streaks.** On flat fabrics, such as poplin, sheeting, broad cloth, and duck, reed streaks are the cause of a greater percentage of goods classified as mill seconds than any other defect. Carded poplins are probably the worst offenders.

Thousands of yards of these fabrics have been classified as mill seconds because of reed streaks running through the entire piece. Mill men have advised us that the only way to correct this condition is to examine very carefully the cloth made on each loom and to install new reeds where necessary.

**General Defects.** There isn't much reason for goods classified as first quality reaching a finishing plant with defects such as mispicks, slubs, uneven yarn, jerked-in filling, etc. These cannot be removed by finishing. In fact some, uneven yarn for example, show up much more prominently after dyeing than in the grey.

**Tar Spots.** On goods finished with a heated calender roll, tar spots are a major problem. The calender roll melts and spreads the tar spots so that quite often they are as large as match heads.

In our plant several methods have been tried for removing tar spots in the finishing, but so far none of them has been very successful, and all of them have been quite expensive.

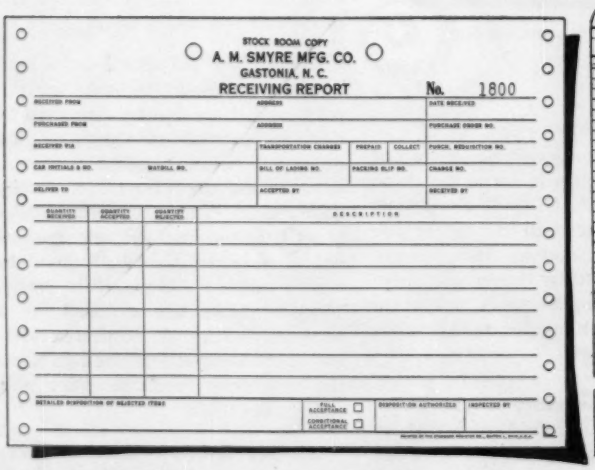
**Immature or Dead Cotton.** Very seldom is it necessary to classify goods as seconds because of immature or dead cotton showing up very prominently in the finished fabric. However, when it is encountered, the customer is notified.

Mercerization of cotton goods increases to a considerable degree the affinity of the immature cotton for dyestuff, but even with mercerization some dye lots contain very prevalent undyed immature cotton.

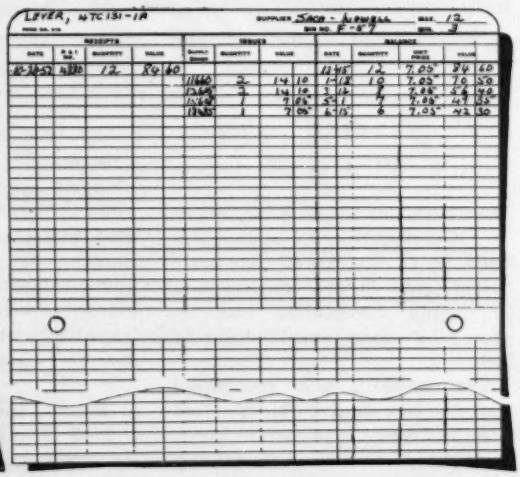
Certain types of dyestuffs seem to have less affinity for immature cotton than others — our experience indicates that the naphthol colors have the poorest affinity of any type.

**Foreign Matter in Cloth.** Soft drink bottles, pick combs, nails, and metal clamps are frequently found in bales or rolls of cloth received for finishing. Usually the bottles are broken into many small pieces that are very difficult to remove from the fabric. Whenever a piece of metal becomes embedded in a

a "Receiving Report" is made in quadruplicate upon receipt of the item at the mill. This report shows purchase order number, describes the item, and indicates the date received. One copy of this goes to the man who pays the bills, and he matches it with the purchase order before paying for the item. One


STOCK ROOM COPY
A. M. SMYRE MFG. CO.
GASTONIA, N. C.
RECEIVING REPORT No. 1800

**RECEIVING REPORT** assures that item has been received. Copy goes to man who pays the bills.


LEVER, WTC 131-1A

**FORM** used in Postindex visible accounting file shows costs on a monthly basis.

squeeze roll on a wet processing machine, it usually cuts a hole in the cloth being processed with each revolution of the roll. A single batch of as much as 100,000 yards of cloth has been found to have a repeat hole all the way through — caused by one tiny piece of metal embedded in a mercerizer roll.

**Good Seams a "Must."** 90 per cent of the seams in cloth put up on rolls by grey goods mills are defective and have to be resewn at the finishing plant. Not only is extra time required to tear out the seams, but there is a loss of cloth on each seam torn out.

A seam which is unevenly sewn at one selvage will cause rolling or doubling of the selvage; and with a mercerizer or other open-width machine operating at a speed of 75-150 ypm, several yards of cloth can be damaged before the operator can possibly correct the double or rolled selvage.

**Trouble with Selvages.** A poorly constructed selvage is another major difficulty for a finishing plant. If the selvage is thicker than the body of the cloth, it will cause a build-up of the selvage when the goods are wound wet on rolls. The built-up selvage will quite often double over and stretch or burst.

A wire selvage gives no end of trouble, and it is practically impossible to properly mercerize or tenter a piece of cloth made with this type selvage.

Fabrics in which selvages are considerably weaker than the body of the fabric also give trouble.

Occasionally cloth with an identifying colored yarn in the selvage is received for finishing. These colored yarns are supposedly dyed with fugitive colors, but sometimes through error fast color yarn is used. This happened recently, and it was necessary for the customer to put the entire lot of goods into a dark shade to cover a red vat-dyed yarn in the selvage.

**Spot Washing.** Occasionally difficulty is experienced with the dyeing of goods which have been spot washed at the grey mill. Sometimes the spot wash will act as a mordant for certain dyestuffs, causing the goods to dye much heavier in the spot washed places. Likewise, the spot wash occasionally causes the place to resist the dyestuff, causing the goods to dye with resist or light spots. Preference at our plant is to receive goods that have not been spot washed.

*From paper "Some Aspects of Fabric Quality from the Finisher's Point of View," presented before Carolinas Section of the American Society for Quality Control.

## Note of Cheer for Wool Mills

For the first time in three years some cheerfulness appears warranted in the wool textile industry.

Mills have been posting modest price increases on apparel fabrics and, if held, they should help to end the disastrous losses suffered by many manufacturers. Further price increases appear necessary, however, if mills are to operate on even a moderately profitable basis.

To date this year, recovery has been most marked in woven apparel goods. Unfortunately, some other segments of the industry—worsted sales yarns and wool blankets—are continuing to lag, though there may be grounds for optimism for them also. — *Harold J. Walter* of Bachmann Uxbridge Worsted Corp., newly elected president of National Association of Wool Manufacturers.

copy remains in the supply room, one copy goes to a reference file in the superintendent's office; the fourth copy is the audit copy which stays in the billing machine.

At the end of the fiscal year, value of supply inventory can be determined in about three hours by referring to the perpetual inventory card and totaling the figures on an adding machine.

**Precautions.** Several mill men have examined this supply room with complimentary observations. Usually the first question asked was, "How much did it cost to initiate the system?" When told about $1500, plus a competent full-time supply man, most mill men are frightened away by the cost, since the advantages are somewhat obscured.

**Advantages.** This system permits saving by buying in discount quantities. Also, a knowledge of parts on hand prevents having machines stand idle while an attempt is made to locate a repair part. Several mills in the area occasionally borrow parts from this mill. Also, since the superintendent is free from the burden of having to do all buying, he has more time to devote to other duties.

Many mills lose money through mistakes in invoicing and paying for items not actually received (honest errors). In one instance over $700 was saved on overcharges for one item in this mill (mistake in bookkeeping).

Also, a ready reference indicates when specific supplies are used in excessive quantities. Price comparisons are also readily available.

**Old Procedure.** The supply room was formerly open only two hours a day, the labor foreman issued supplies, and there was no full-time supply man. There were over 3500 items in the supply room. These items were issued at random and on demand from the various mill departments.

In some instances overseers requested too many supplies—gears, aprons, belts, and machine parts —which often piled up in the departmental store rooms. Next time a part was needed, someone went to the supply room for the part instead of using one already in the department. In this way many new parts were lost or ruined from improper storage, damage, and neglect. Many parts were in the machine shop, including expensive bearings and similar items. These parts also represented a large financial investment which served no useful purpose.

Management officials at Smyre consider the new system worth many times the actual cost.

## Loom fixing tips and causes of

# Weaving Defects

By Clyde O. Cronic
EXCLUSIVE

The author of this series has had years of experience in producing quality goods. Although his articles pertain primarily to cotton weaving, much of the information will be of value to weavers of other fibers. The series should be especially helpful to mills equipped with looms of models Modified D, XD, X2, E, and L.

## PART 2*

### Warp Threads Cut by Temple

**1.** Temple vibrating so much that burrs do not hold ends of cloth parallel with reed dents. Other causes: temple bar and cap not fitted properly to each other; too much space or too little space between temple bar and cap; left-hand temple roll in right-hand temple (or vice versa).

### Buttonhole Selvages

**2.** Improper draw in reed.

**3.** Selvages running slacker than body of warp.

**4.** Harness shed opening too wide.

**5.** Warped or crooked filling quills.

**6.** Quill not in center of shuttle.

**7.** All quill rings not catching.

**8.** Too much tension on filling in shuttle.

**9.** Shuttle eye clogged or not open wide enough.

Too much power on loom (not shown in photographs).

### Corded Selvage

**10.** Carelessness on part of the weaver in not keeping the selvage drawn properly when ends break (strictly a weaver responsibility).

### Stringy Selvage

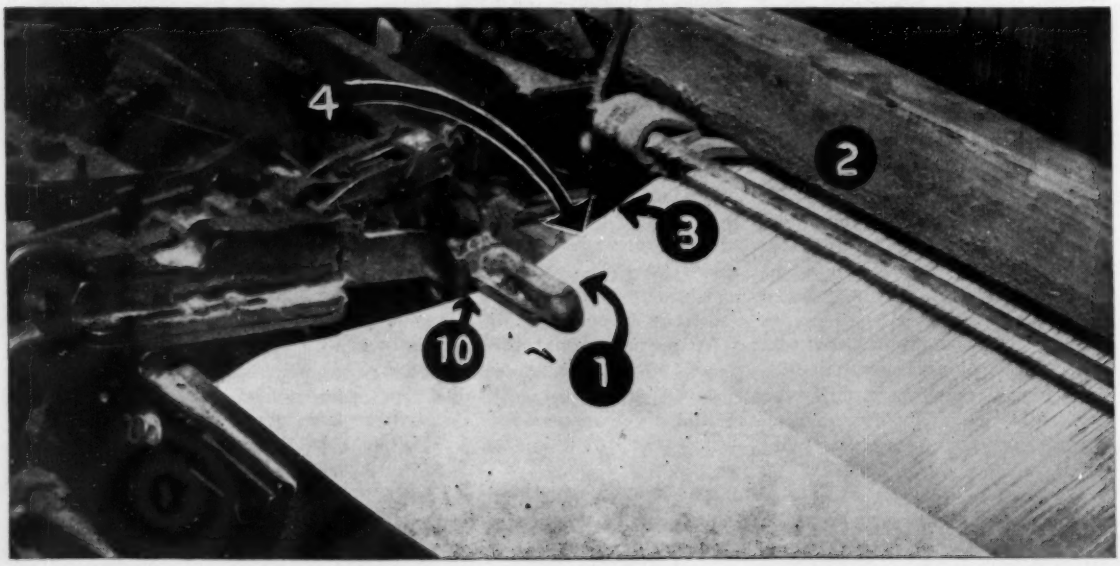
**11.** Filling hanging on filling fork (fork too high or too short, worn rocker-shaft bearings, high breast beam, etc.).

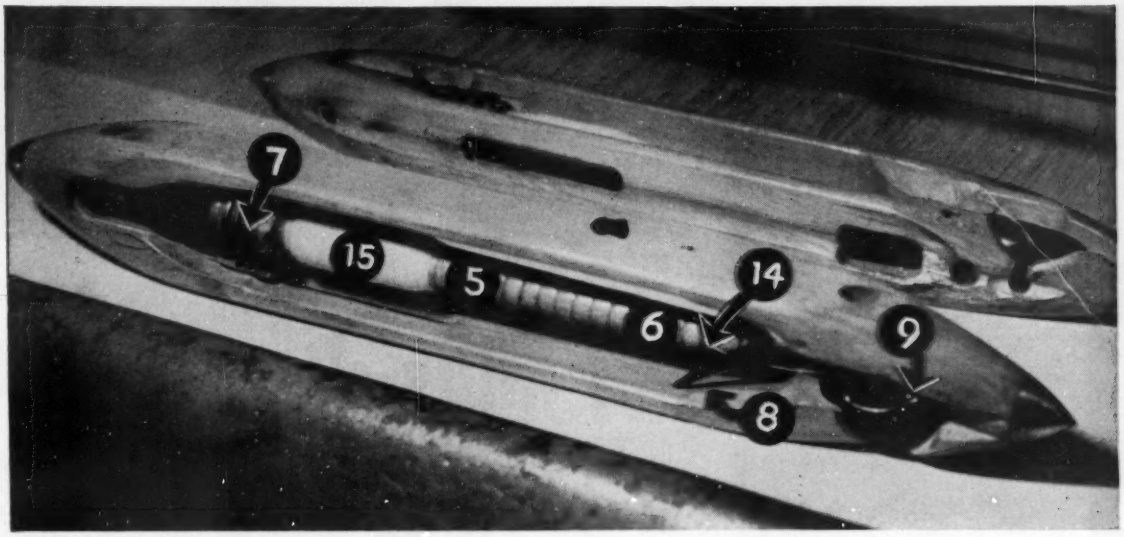
**12.** Filling fork going too far through filling grate.

**13.** Shuttle bouncing so that filling does not have correct tension.

**14.** Not enough tension in shuttle.

**15.** Excess twist in yarn and im-






proper lay on quill.

**Doublings in Filling**

Cause: Doublings are made by improper piecing in drawing, roving, or spinning. Instead of twisting in the new piece of drawing or roving, the operative will lay the ends on top of each other, making a piece of stock of double width; when the stock is drafted, a long doubling is obvious to the eye.

Remedy: Teach proper method of piecing in carding and spinning. Constantly show operatives bad work in weaving that is directly traceable to the card or spinning room.

**Oily Warp Threads**

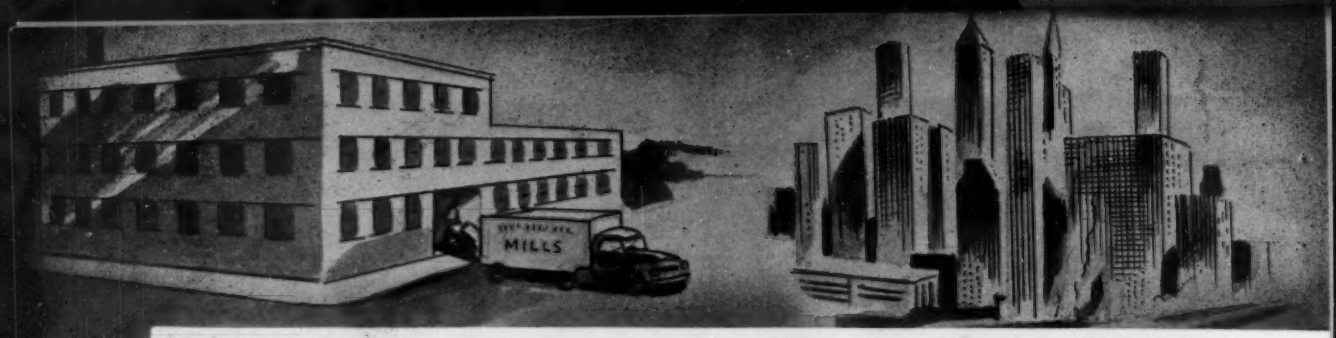
Oily warp threads are usually caused by carelessness. Oily roving should never be spun, but should be removed by the spinner when creeling (if it shows up on the outside of the package). Too much oil on the spinning rolls will find its way into the yarn.

Oily yarn is also caused by piecing-up with oily and dirty hands. Or the doffer may drop a bobbin of yarn on the oily floor and toss it into the box.

In the weave room, the weavers can cause oily yarn by tying a knot while their hands are oily; or loom-fixers may lay tools on the warp; or battery fillers may drop quills on the oily floor.

Anyone handling any stock in process should have clean hands.

*Part I was published on pages 100 and 101 of the May, 1955, issue of "TEXTILE INDUSTRIES." Others will appear later.




MERCHANDISING

# What can mills do to help

**ANSWER—Provide educational material that explains what makes a customer buy and how to make the sale. . . . Base it on field work, and make sure it's given a live presentation**

NO. 6 OF A SERIES — EXCLUSIVE

A KEY LINK in the chain of merchandising functions is the final one: the preparation of the retail sales person to properly present the consumer with the case for a particular mill product or fiber.

Much of the material being prepared by mills for distribution to retail stores is purely promotional. Although such material may be excellent as a means of *direct* promotion aimed at the merchandise manager or consumer, it does not represent a practical, down to earth approach in training. As a result this material rarely finds its way to the department responsible for sales training and *never* reaches the salesperson.

Explanation for this waste of effort and funds seems to center on one fact: mill merchandising departments do not generally find out what information the sales person needs. Too often literature and training films offer little more than a semitechnical description of how the product is made and only lightly cover the techniques involved in selling the product.

As an example of a successful method of carrying out a realistic sales training program, the Wool Bureau Inc., through its Educational Department, has gone to the consumer to learn what makes him buy and then to top salespeople and leading salesmanship specialists to learn the best way to sell more wool products.

This information has been compiled in several practical training forms for distribution at the store level; this distribution is frequently coupled with a check to make sure that a competent presentation at a meeting of salespersons will be made. For stores which do not have formal sales training facilities, materials are prepared in such a way that they can easily be used by any merchandising executive whether or not he is experienced in professional sales training procedures.

**What Does the Consumer Want?** Before preparing any sales training material, the Wool Bureau takes into consideration the nature of consumer buying motives in whatever area of selling may be involved. This is done in the realization that a sales talk, directly aimed at the individual consumer's special interests, is much more effective than the "canned" phrase . . . the arbitrary statement.

Among the various sources of consumer buying motives and habits upon which the Wool Bureau has based sales training materials was a survey of the male customer for suits. They wanted to find out what makes this type of customer tick. Resultant sales training material included a salesman's handbook based on the results; but it didn't stop there. Visual teaching aids, filmstrips, and flip charts were produced in order that stores and their salesmen could benefit from these facts to a far greater extent than "throw-away" booklets could ever insure.

The facts, translated into this particular Wool Bureau sales training kit, were as follows:

1. A man likes wool because it is durable,

**Make only what you can sell!**

# retail sales personnel?

wrinkle resistant, warm, good looking, and shape retaining . . . in that order.

2. Most men buy suits on faith (only 2% of this faith concerns the fabric manufacturer, 17% for the store, 10% for the garment manufacturer, and 14% for the salesman); other influencing factors are feel and looks.

3. Men also dress to impress women and other men with the neatness, fit, style of garment and material, and newness of their clothes; they are influenced by women who notice, judge, influence, and buy their clothes (and women prefer wool for their husband's suits); men also purchase suits on the strength of the fabric, style, and tailoring and fit, in that order; the label in the suit influences purchasing—if it says wool more men will want and buy it than they will a suit of another fiber or fibers; men will pay more for an all-wool suit than for garments of other fibers.

**Technology.** Although none of the selling aids directed at the salesperson contains manufacturing data, the distinguishing characteristics of the wool fiber and basic fabric types are described in the sales training program. Most important, they are always clearly expressed in terms of the consumer's own interests and buying motives.

For example, a flip book titled "Be Top Salesperson," which has been prepared for salespersons in women's apparel departments, describes the advantageous wool fiber properties, tells why they are advantageous, and suggests how to translate each property into a selling point. But since the Wool Bureau does not believe in booklets alone as a truly effective sales training medium, a sales package, prepared especially for women's ready-to-wear and piece goods salespeople consists, not only of the booklet, but also of a flannel-board kit for illustrative purposes. An accompanying leader's guide shows department heads or store training representatives how to get these wool selling points across to the sales force.

**How to Sell Women's Wear.** In addition to explaining the fundamental sales approach already mentioned, and the functional properties of the wool fiber, this subject is treated with emphasis on fabrics and fashion. Color and effect of a particular fabric and cut of garment on the figure are stressed.

Information regarding washing and shrinking is presented, emphasizing that stability is qualified by markings on the garments and is subject to normal conditions. If the salesperson observes these precautions and states the limitations imposed by the wearing qualities of certain fabric classes, complaints and returns can be cut down.

The proper approach to selling yard goods is also covered in the program. Such advice as choosing coordinating fabrics and selecting the proper weight fabric for a specific purpose are covered.

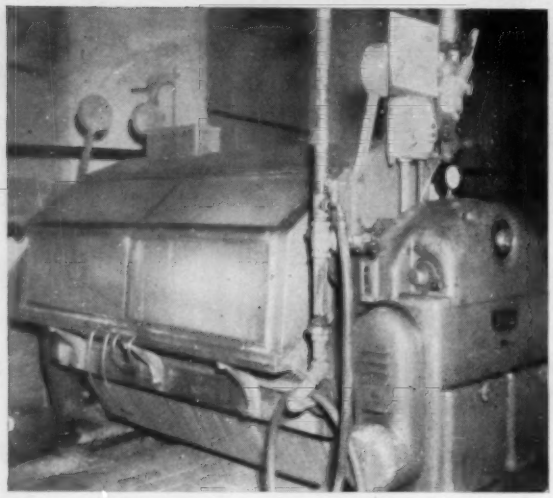
**Programs Need Revision.** Judging by the details of technique developed by the Wool Bureau's Educational Department, mills that provide facilities in their merchandising programs for retail sales education should do some revamping:

1. Recognize the difference between promotional and educational material.

2. Base preparation of educational material on consumer research.

3. Develop comprehensive means for getting the program across.

4. Go into the field and check its effectiveness.



**PRESSURE JIG** is used for bleaching the cotton-Dacron; motes, trash, and soil are removed, goods are kept open. Dyeing is also done on this equipment.

*Staff Prepared*

EXCLUSIVE

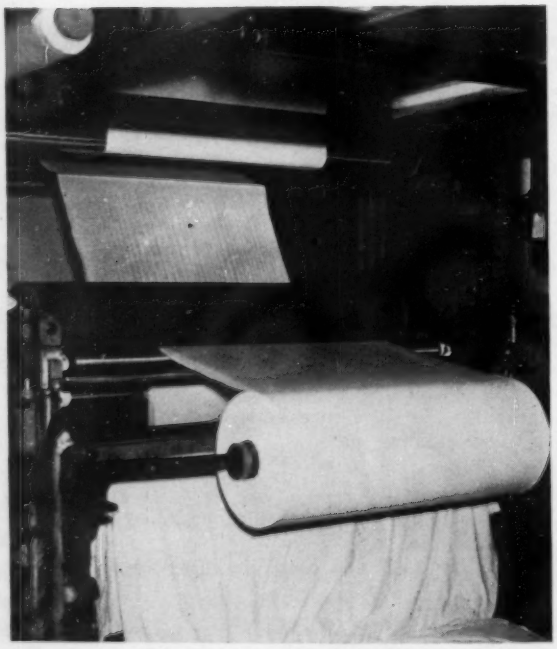
COMBINATIONS of Dacron with cotton in both spun blends and mixtures for shirtings and blouse goods have become a significant market development, because of the fabrics' retention of desirable cotton characteristics and additional wrinkle resistance introduced by the Dacron. As one of its specialties, The Cliffside Dyeing Corp., Paterson, N. J., is dyeing and finishing this fabric class; key point in dyehouse procedure is the care required to keep the goods free of creases so that they are not permanently set into the finished product.

**The Cloths.** There are two fabric types being processed: (1) an all-spun fabric containing a 65% cotton and 35% Dacron blend in both warp and filling yarns for better price ranges, and (2) a filament Dacron warp and Pima cotton filling fabric for popular price ranges. Generally, both fabrics are dyed and finished alike.

**Bleaching.** First step in the procedure is a bleach

## Finishing Dacron-cotton blends? It's important to

# Watch Those Creases!



**HEAT SETTING RANGE FEED** is a critical point for crease-prevention. Creases contained in the fabric as it enters the setting oven will be permanently set.

bath designed primarily to remove motes and other trash from the cotton. Since Dacron does not require bleaching to achieve whiteness, this step concerns only the cotton.

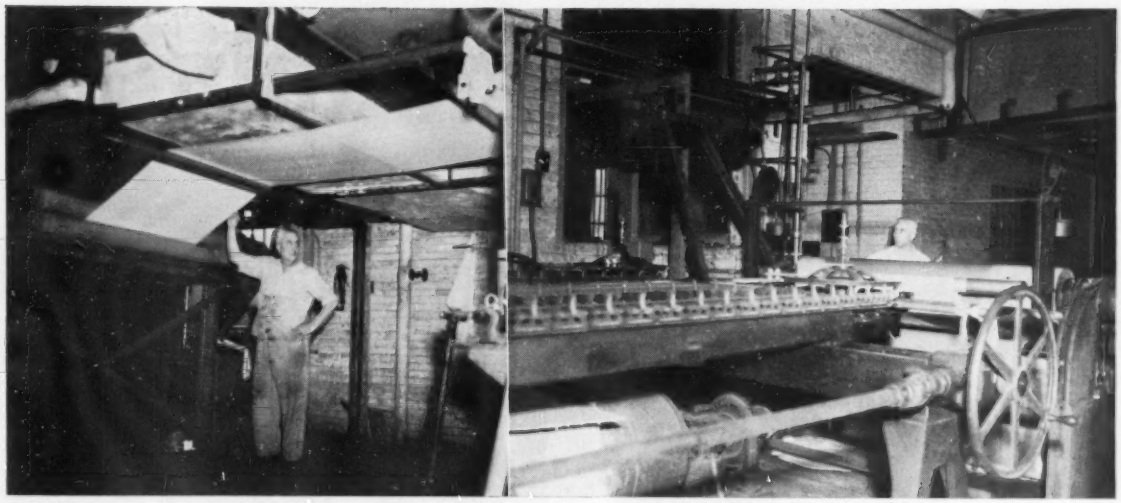
Bleaching is done under pressure in a Mezzera jig. The tension control and positive open width working of goods possible in this type of bleaching is an important contribution to the prevention of wrinkles and creases, rope marks, or other fabric defects.

**Dyeing.** Most of the cotton-Dacron goods are jig dyed also. Color is mostly confined to white, and is obtained by standard blue-tint dyeing; in most cases color is applied to the goods by dyeing the cotton only—on rare occasions both fibers are dyed.

**Heat Setting.** While this step can precede wet processing, Cliffside usually heat sets after dyeing. The operation is carried out in the mill's setting range; the goods delivered from the oven are 45″ wide and set so that shrinkage is nonprogressive after 50 launderings. Residual shrinkage is less than 2%.

In heat setting, all work is done on the Dacron. Elevated setting temperatures (400 F) prevent further dimensional changes unless the fabric is exposed to higher than setting temperatures.

In the blend, the 35% Dacron is sufficient to



**PERSONAL ATTENTION** is required to keep goods free from creases. Operators at heat setting delivery (left) and tenter (right) keep an eagle eye out for defects of this sort.

stabilize the cotton; in the filament Dacron warp-cotton filling fabric, the setting of the warp locks the filling against shrinkage.

**Finishing.** Last step in the procedure is a pass through a clip-tenter frame to prepare goods for shipment.

## Some Wet Finishing Procedures Recommended for Dacron-Cotton Blends*

### PREPARATION

**Desizing.** Normal cotton desizing enzymes for starch removal can be used.

**Scouring.** Mild scouring is sufficient for all fabrics except those containing heavy soils. Soils are removable in several ways:

1. Pad several hours before scouring with an emulsion of a solvent (90 parts Varsol or xylene) and a non-ionic detergent (10 parts).
2. For severe grease soiling, spot-clean with dry cleaning solvent shortly before scouring.
3. Add a solvent emulsion to the scouring bath.
4. Add stripping or bleaching agent to scouring bath.
5. Add 0.1 to 0.2 oz per gallon of oxalic acid to scouring bath to remove iron or rust stains.

Exposure to high temperatures should be avoided before removal of heavy soils.

A typical scouring formula for normal goods follows:

Water solution of:

- 0.1 to 0.2 oz per gallon of nonionic detergent
- 0.1 to 0.2 oz per gallon of TSPP (tetrasodium pyrophosphate)
- 0.1 to 0.2 oz per gallon of sodium metasilicate
- 0.003 to 0.006 oz per gallon of carboxymethyl cellulose

Note: 1.0% Duponol RA and 2.0% TSPP can be substituted for the nonionic detergent.

Prescour goods for 20 minutes at 100 to 120 F, drop bath and scour in fresh bath at 180 to 200 F.

### BLEACHING

Run goods about 1 hour with 2 grams per liter of Textone and 0.5 grams per liter of 61% nitric acid at 180 to 190 F. Where the cotton only is to be bleached, hydrogen peroxide and sodium metasilicate are suggested. A small amount of Latyl Violet BN will blue tint both the cotton and Dacron.

### DYEING

Union and cross dyeings can be made using disperse dyes on Dacron and either vats or directs on cotton. If direct colors are used, a one-bath process is possible; goods so dyed, if after treated, give adequate fastness properties for many end-use requirements. In the two-bath method required when using vats, the Dacron is dyed first.

In dyeing the Dacron, a carrier (orthophenylphenol) is required when using a conventional covered beck. Pressure dyeing at 250 F in a Barotor or beam dyeing machine requires no carrier, but methyl lactate or glacial acetic acid should be used to stabilize the dye.

### FINISHING

Finishing techniques for Dacron-cotton blends include wire or bristle brushing to improve pill resistance, heat setting for thermal dimensional stability and improved resistance to pilling, brushing and shearing to minimize beading-up in singeing, singeing as a major control for pilling, and compressive shrinkage to dimensionally stabilize the cotton.

**Heat Setting.** Preferred conditions are a 45-second exposure at 380 F in conventional heat setting equipment. The best resistance to pilling is obtained when shrinkage of the order of 3 to 7% is allowed in both warp and filling.

*These recommendations have been summarized from "Dyeing and Finishing Fabrics of 'Dacron'/Cotton," Preliminary Bulletin D-46, Textile Fibers Department, E. I. du Pont de Nemours & Co.

# Tips for maintaining

*Staff Prepared*

EXCLUSIVE

IT MAY seem unnecessary to stress the importance of a regular schedule for inspection, maintenance, and lubrication of textile machinery. But unfortunately not all mills have such a schedule; or, if they do, do not scrupulously adhere to it.

Improper functioning of the wool spinning frame caused by inadequate cleaning, worn or defective parts, and improper lubrication, lowers yarn quality and reduces frame efficiency. These in turn reduce production and increase costs.

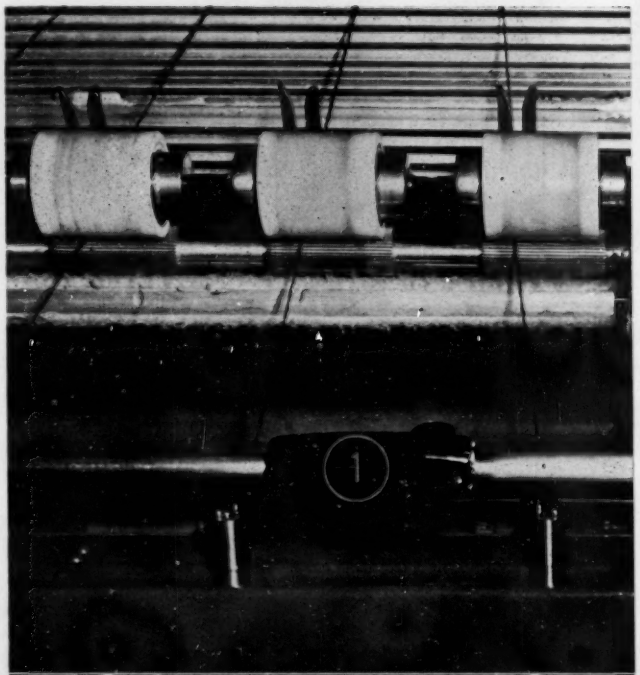
In a well-run woolen mill, the maintenance program is set up so that the schedule of routine cleaning and inspection keeps the frame in the best operating condition at all times, and not just for the few days following a random or haphazard cleaning.

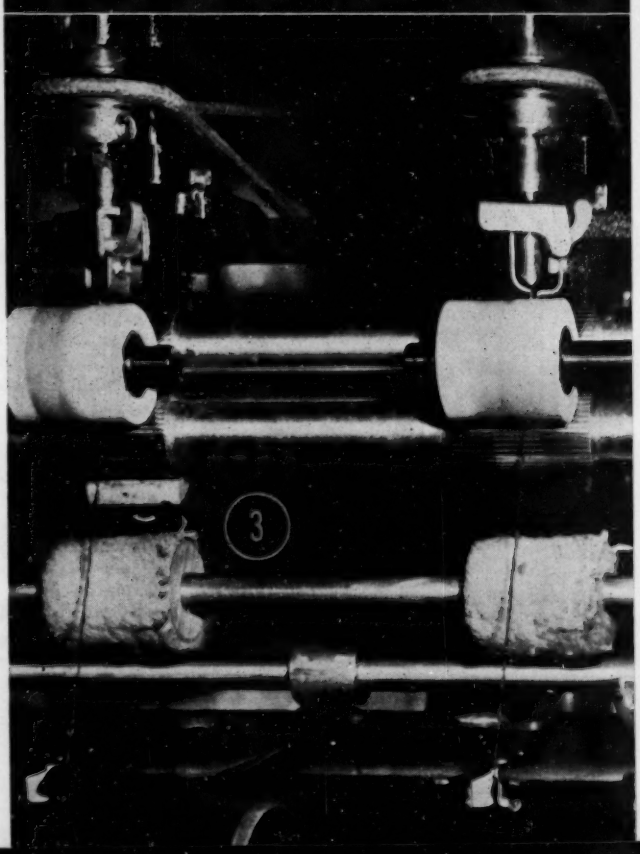
**Shift Cleaning Schedule.** Each operator should be held responsible during her shift for the condition of the frames assigned to her, and for seeing that the frames are left in good shape for the next shift.

Machines should be given a general cleaning at the beginning of the shift. When running the cleanest stock, deck boards should be cleaned twice per shift to avoid build-up of flock which catches in the ends and causes slubs. On stock which is not as clean, deck boards should be cleaned three or four times on each shift; and on dirty stock as often as four or five times.

Each operator must clean the deck boards and make sure that all ends are up at the end of the shift.

**Rolls and Clearers.** Rolls should receive regular

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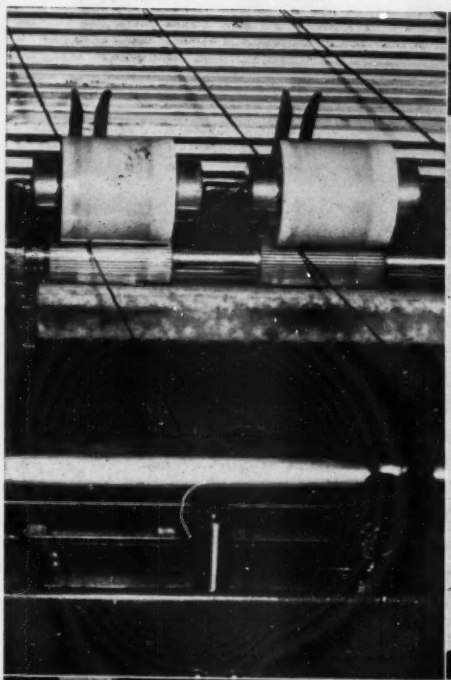
**1.** Clearers under the back roll reduce accumulation of lint and grease between the flutes. Full advantage of traverse motions should be made to prevent grooving of rolls. (*Whitin Machine Works photo.*)

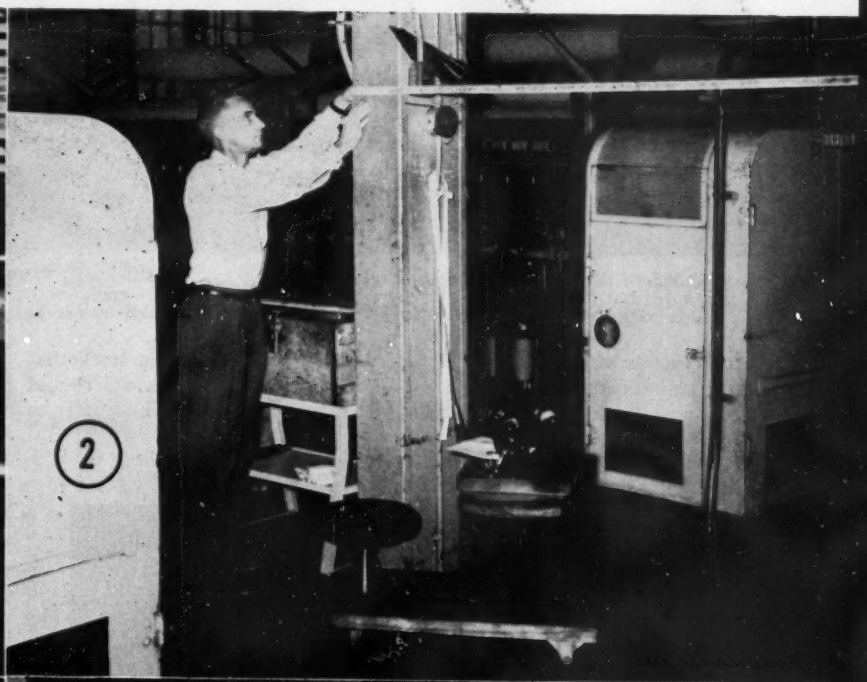
**2.** Tapes must all be cut to exactly the same length —differences of as little as ¼" to ½" can cause variation in twist, soft bobbins, and lighter doffs.

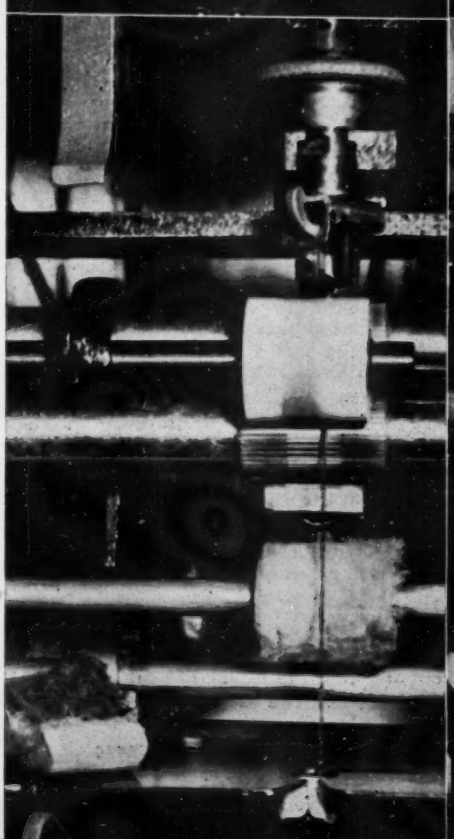
**3.** Scavenger roll cloth should be kept in good condition to prevent double ends. If lint accumulates to the extent shown, it enters the rolls and is spun into the yarn. (*Whitin Machine Works photo.*)

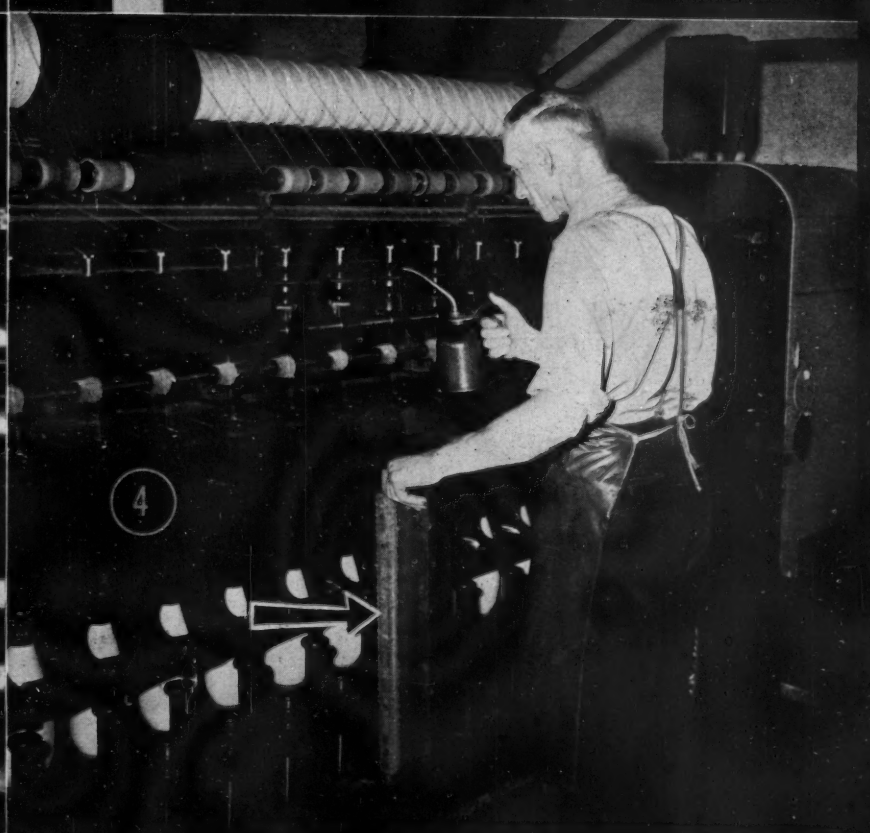
**4.** Twister head bearings should be oiled once each shift to prevent binding, which causes bands to stretch. Note clearer (arrow) which one mill bolted to cover, to clean single-line metallic drawing rolls.

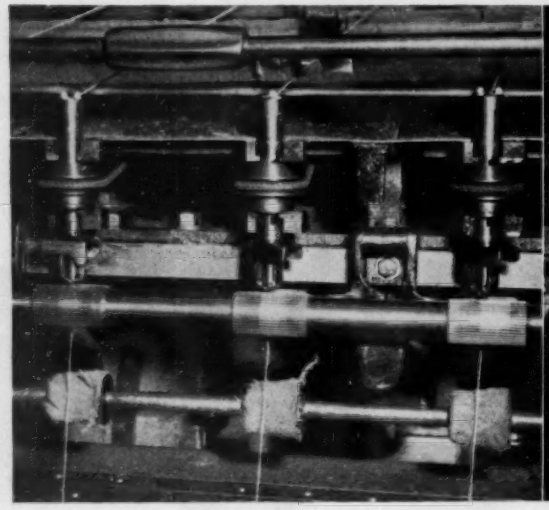
# wool spinning frames



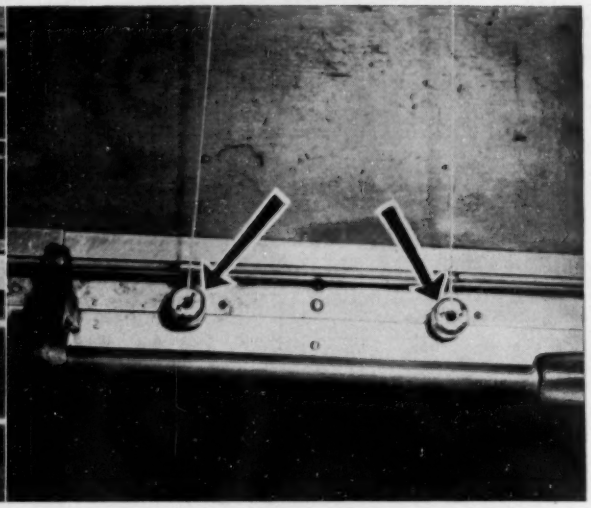






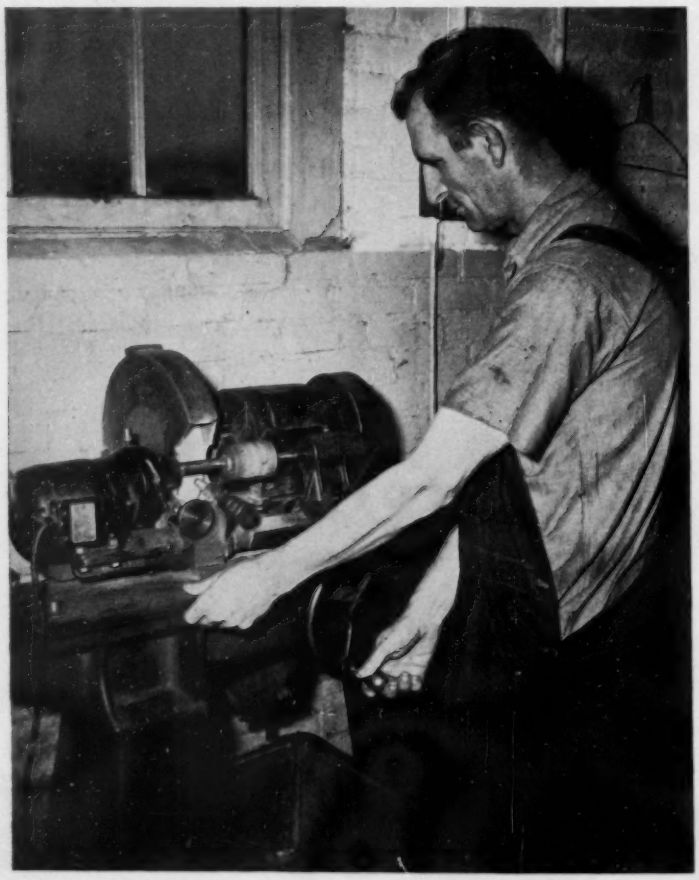
**WHORL** of twister head should be checked regularly to be sure that surface is free of nicks or sharp edges which would chafe or cut the band.



**CERAMIC TOPS** have been installed on twister heads by some mills; these have increased wear life. New nippers are put on at same time.

attention as the first step in a good maintenance program. It is a good procedure to clean all rolls daily, regardless of the stock that is being run, and clearers should be cleaned at the same time as the rolls.

**COVERED ROLLS** should be buffed as required, a whole frame at a time.



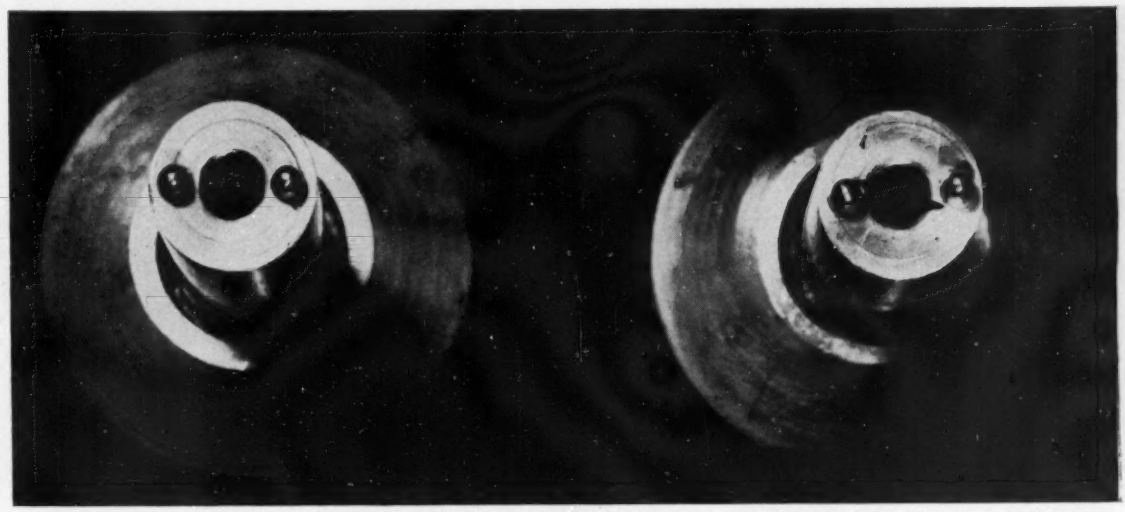
The principal trouble with the rolls is caused by foreign matter becoming embedded between the flutes. Clearers should be used on all rolls; if they are not, then emulsion, oil, and lint are soon deposited on the rolls and accumulate to the extent that the top rolls or front double boss rolls are lifted. This causes excessive tension on the roving all the way back to the jack spool; the results are spool breaks and uneven yarn.

If rolls do become clogged with oil and dirt, they should be scoured with a solvent, and a piece of card clothing used to clean between the flutes.

Clearer and scavenger roll cloth should be replaced as needed—when it becomes worn or frayed. Worn scavenger cloth will not pick up a broken end, which will become entangled with the next end, causing a double end.

**Tapes.** On a modern wool spinning frame the tapes will rarely accumulate layers of lint; but if they do, they should be cleaned by holding a piece of card clothing lightly against the moving tape. Build-ups of lint on the tapes cause spindle slippage, which in turn reduces the amount of yarn on the bobbin and causes twist variation.

It is important that all tapes be cut to the same length—differences of as little as ¼" to ½" in



**TOP** of worn twister head on right is grooved, as compared with new twister head on left. This condition will cut fibers and weaken yarn. (*Whitin Machine Works photo.*)

length can cause variation in twist, soft bobbins, and lighter doffs. Differences can sometimes amount to 10-15 pounds per doff.

Tapes should be cut on a measuring board, being sure that all slack is removed and that even tension is always applied. It is preferable to sew tapes with a nylon thread, using a 6-inch lap, rather than lacing them as is common practice in many mills.

Tape tension pulley springs should be checked about every three months to insure proper tension on each tape. A meter may be used to check tension, but most mills do it manually, by pulling the tape. To an expert touch, improper tension can be detected by turning the bobbin when the frame is stopped.

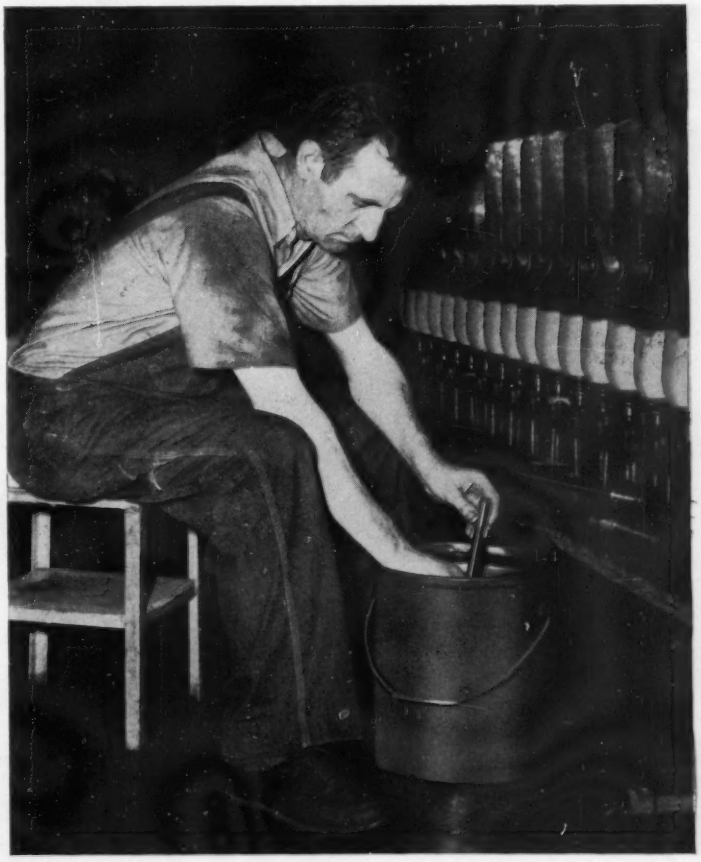
Pulleys should be checked for alignment every six months, to insure that the tapes will not run off. This precaution will decrease tape breakage considerably.

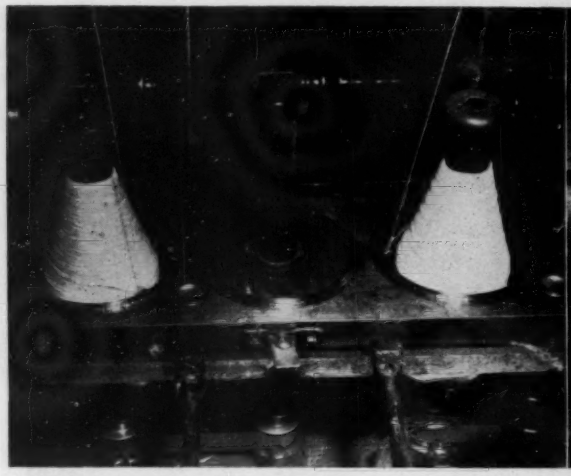
**Twister Heads.** The finer the yarn run, the more attention is required by the twister head. Twister heads should be kept clean and oiled once each shift to prevent binding, which will cause the bands to stretch. Uneven tension on the bands causes variation in twister head speed, and hence variation in draft and in yarn uniformity.

Rubber or rubber-treated nylon bands are said by some mills to give more uniform tension and have a longer wear life than the conventional cotton bands.

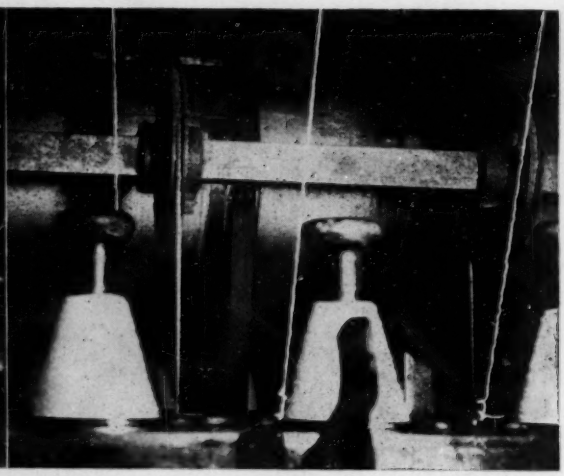
The surface of the whorl on the twister head should be checked regularly to be sure that it is free

**BOLSTERS** should be cleaned once a year in a solvent such as kerosene or carbon tetrachloride.





**SPINDLES** should be plumbed once a year, using a bobbin with a wooden plug attached. The plug should have a diameter about ⅛" less than the ring.



**SQUARE SHAFT** lifter pulleys should be kept clean; any accumulation of water in the pulley grooves will alter the lifting distance of the rail.

from nicks or sharp edges which would chafe or cut the band. The top of the twister head should be checked regularly for wear. Some mills have ceramic tops put on worn twister heads, as shown in an accompanying illustration.* New nippers are put on at the mill when ceramic tops are installed; nippers should be replaced whenever they become worn.

Deflector rods should be checked regularly for looseness. Loose rods may drop below the twister head, causing the end to ride on the head instead of on the knobs. This produces too much tension and thus uneven twist.

**RINGS** should have dirt and fly wiped off at each doff.

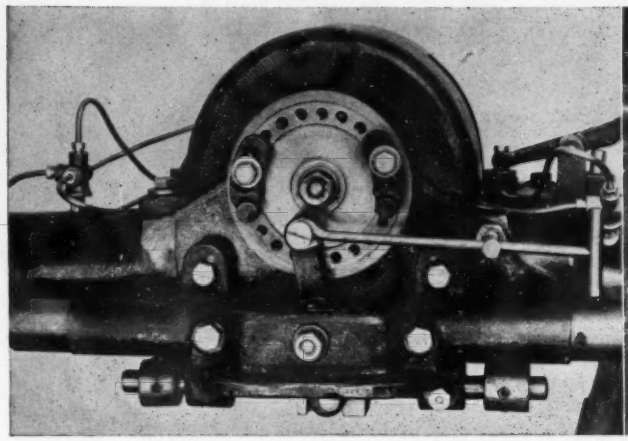
**Traverse Motion.** The traverse motion for the roving guides should be inspected about every six months to insure that the traverse is equal to the full length of the section of the roll, so that the rolls will not become grooved. If the traverse is not correct, the cam should be reground accordingly. Additional traverse has been obtained at some mills by a modification which causes the roving guide traverse to be driven through the builder motion.

The traverse of the front rolls should be checked annually, and worn couplings or connections replaced.

Covered rolls should be buffed as required, a whole frame at a time. An extra set of rolls should be kept on hand to provide complete replacement for a frame while the rolls are being buffed.

**Bolsters.** Bolsters should be oiled at least every three months, depending on mill operations. At least once a year cast iron bolsters should be removed and cleaned with a solvent such as kerosene or carbon tetrachloride. The bolster case should have the old oil siphoned from it and be cleaned with a swab before the bolster is replaced in the case and new oil

*One firm which specializes in applying ceramic tops to twister heads is A. W. Bierlin, Philadelphia, Pa.



**BUILDER** knock-off dogs should be checked for uniform position on all frames, and adjusted if cam is altered. (*Whitin Machine Works photo.*)

**WORM GEAR** housing should be flushed annually, and new oil added to replace the oil drained out.

added.

Cleaning in a solvent is not recommended for the bolsters of antifriction bearing spindles, and the bolster need not be removed as frequently.

**Spindles.** Spindles should be plumbed once a year. In setting the spindles to the rings a bobbin with a wooden plug attached should be used, as shown in the accompanying illustration. The plug should have a diameter about ⅛″ less than the ring, and should be evenly balanced.

The bottom of the spindle should be set first, with the spindle rail raised, and then the top adjusted with the rail lowered. Any remaining misalignment should be corrected with smooth-paper shims placed between the bolster seat and the bolster rail.

New frames should have spindles taped and run empty for eight to ten hours before the rings are set. The spindles should be oiled every other day for the first week, then twice each week for two or three weeks. After that, lubrication every two weeks is sufficient.

**Bobbin Clutch.** Operators and doffers should remove all yarn from around the clutch after each set. If bobbins are put on the spindle without removing the surplus yarn, the action of the clutch is impaired. This permits the bobbin to slip, causing uneven yarn and soft yarn with no twist.

Bobbins should be checked annually for bad bushings; these should be replaced where necessary.

Some mills put a fiber cap on worn bobbins to prevent hanging of yarn which causes end breakage in warping and rewinding.

**Bolster Rails.** Bolster rails should be kept level at all times, and should be realigned yearly. A semi-annual check of levelness is advisable.

Lifter rods for the bolster rail should be kept clean and level. Vibration of these rods can ruin the rings, so the rods should be rebushed if there is any sign of vibration.

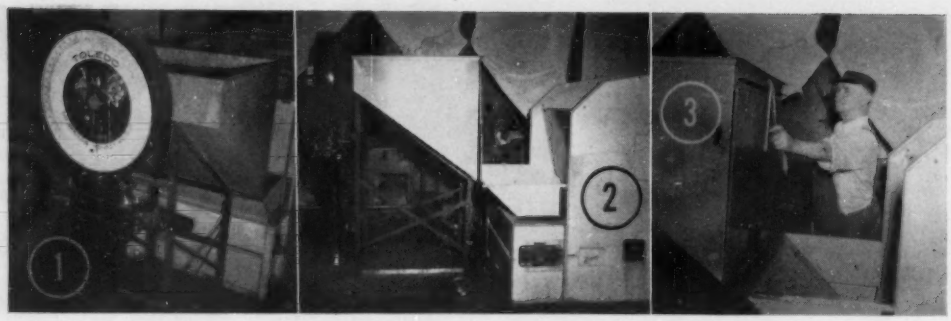
Square shaft lifter pulleys should be kept clean, since any accumulation of waste in the pulley grooves will alter the lifting distance of the rail. The pulleys should be checked when the set is full and the rail is at its lowest position, since this makes available an opening for easy cleaning. Pulleys should be cleaned with a metal hook.

**Builder.** Bobbins should be checked daily to see that the shape of build is correct. Any slippage of

**SCHEDULE OF WOOL SPINNING FRAME MAINTENANCE***

| | Per Shift | Weekly | Monthly | Six Months | Annually |
|---|---|---|---|---|---|
| Rolls (without clearers) | | ✓ | | | |
| Top clearers | ✓ | | | | |
| Double roll line clearers | | ✓ | | | |
| Tapes | | | ✓ | | |
| Twister Heads | | | ✓ | | |
| Twister bands | Biweekly | | | | |
| Traverse motion | | | ✓ | | |
| Bolster lubrication | | ✓ | | | |
| Bolster flushing | | | | | ✓ |
| Spindles | | | | | ✓ |
| Rings—wicking | | | | ✓ | |
| Bobbin clutches cleaning | ✓ | | | | |
| Bolster rail level | | | ✓ | ✓ | ✓ |
| Chains | | | | ✓ | |
| Driving clutch | | | 3 months | | |
| Frame leveling | | | | | ✓ |
| Deck boards | Continuous | | | | |
| Builder adjustment | When changing yarn sizes | | | | |
| Ring automatic lubrication system | | ✓ | | | |

**One shift basis.*




## Portable Blending Scale Eliminates Sandwich Mixing at Feeder

When blending small poundages of cotton, wool, rayon, Orlon, and nylon for spinning on its cotton system equipment, Amoskeag-Lawrence Mills, Inc., Manchester, N. H., uses a mill-built combination scale and hopper to eliminate individual weighings and sandwich mixing.

The unit consists of a 50-pound capacity hopper attached to an angle iron frame which is bolted to the platform of the scale (photos 1 and 2). It is placed at the entering end apron of the mill's blending feeders (photo 2) — can be moved anywhere.

Stock is taken from bale or carton and placed directly in the hopper. Proportions required for the blend are at the same time measured by watching the indicator on the face of the scale.

When the correct weight of each ingredient has been placed in the hopper, the catch on its door-front (which faces the apron of the blending feeder as shown in photo 3) is released manually, and the weight of the stock pushes the door open and feeds the blending unit.

## Know Which Fiber Women Prefer?

According to the recently published summary of a study* to find out women's opinions of cotton and other fibers used in certain items of women's clothing, cotton was preferred by a very large majority for ready-made housedresses, summer skirts, sleeveless blouses, shorts, summer slacks, anklets, and aprons.

Nylon was most popular for slips.

Wool had its largest following among the two-thirds who preferred it for winter skirts. A third preferred wool for one-piece winter street dresses.

Rayon or acetate was most popular for between-season dresses and for long-sleeved blouses. However, preference was expressed for a number of fibers for these items of clothing.

With present merchandising, which makes a number of fibers available at all seasons, it is interesting to note the large percentage of women who did not express a specific preference for one fiber.

A full report on the study, to be issued later, will contain detailed information on reasons for preference.

*Conducted during May and June, 1954, by the U. S. Department of Agriculture. Information published here is based on a preliminary summary report entitled "Women's Opinions of Fibers in Selected Items of Clothing" issued in February, 1955.

the cam or chain must be corrected.

If the automatic wind-back is used, the position of the knock-off dogs should be checked periodically for uniform position on all frames, and adjusted if the cam is altered.

**Rings.** The rings should have dirt and fly wiped off at each doff, and rings and ring rails should be thoroughly cleaned each week.

If an automatic ring lubrication system is used, it should be checked weekly to be sure that the correct amount of oil is being delivered to the rings. Plain vertical rings should be oiled each doff.

Worn rings can be refinished, but many mills on high quality work prefer to replace them.

Ring life can be lengthened by checking travelers every four or five days and replacing them as infrequently as possible. New travelers have a more abrasive action on the rings for the first few hours than they do after they have been run in.

**Annual Inspection and Overhaul.** The level of the frame should be checked annually, and relined if necessary. At the same time the cylinders, rolls, driving shafts, and spindle and bolster rails should be aligned.

Chains should be removed at the annual overhaul and flushed in a solvent. Worm gear housings should be flushed out and new oil added.

As mentioned previously, roll traverse and bobbin bushings should also be checked at the annual overhaul, and spindles plumbed and bolsters cleaned.

**Acknowledgment**

The editors are indebted to Whitin Machine Works for much of the data presented; and to H. H. Clinard, overseer of spinning at Springfield Woolen Mills Co., Springfield, Tenn., for his invaluable assistance in preparation of the article.

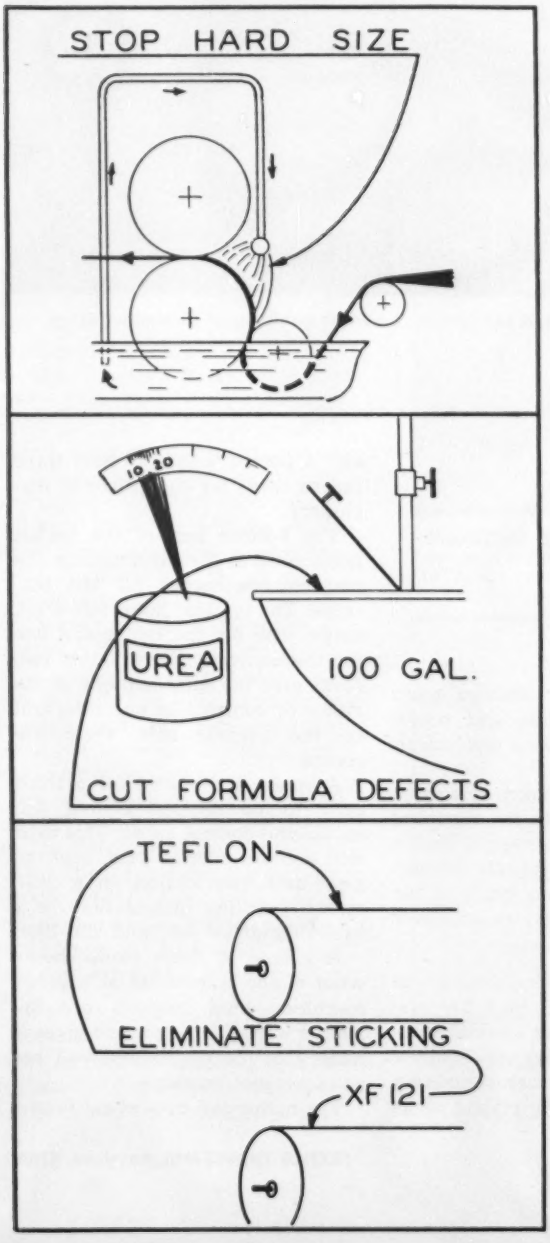
Eliminate Hard Size — — Increase Penetration — — Stop Sticking

# For Better Filament Yarn Slashing

By Melvin Alpert
EXCLUSIVE

SEVERAL recent developments have overcome a few of the principal difficulties encountered when slashing filament yarn warps, resulting in improved production and quality.

Hard size marks generally occur when the slasher is stopped, particularly when the warp is ready to be doffed. When running a small number of section beams, it is sometimes possible to make a lease in a warp without raising the stopped warp from the size pan. This leasing in the size may result in a hard size mark, while if the lease is made with the warp out of the size, lifting the immersion roller will result in a soft, unsized section of warp. Both conditions are undesirable.




**The Spray Attachment.** To overcome this hard size condition, one method used by many mills involves installing a perforated pipe near the nip of the quetsch rolls and using a circulating pump to spray the size solution over the yarn.

This constant flow of solution over warp which has been immersed in the size and stopped before reaching the nip will prevent the size from drying on the yarn and forming a hard size band.

**Use Of Urea In Formula.** Urea has been used for many years by dyers and printers as an essential part of their formulas. Urea is a swelling agent for most fibers and contributes to better penetration and increased pick-up. Recently, many weaving mills have begun to use urea regularly in the size bath. Amount used is 10 to 20 pounds per 100 gallons.

Because of the increased pick-up ability of warp yarn treated with urea, the entire size formula may be cut at least 10%. In addition, "frost," reediness, and can sticking are reduced.

**Warp Sticking.** Another common filament warp slashing problem is the tendency of the sized warp yarn to stick to the first few cans of the slasher and for the size to build up on these cans. Sticking warps result in broken filaments, and "sandiness." This problem can be overcome by covering the first two or three cans with a cloth or netting. For many years this was the standard procedure used to eliminate this condition. While the cloth covers eliminate sticking, they are troublesome because they require frequent changing for cleaning.

**Teflon Coating.** To bypass use of cloth covers and still prevent sticking warps, Teflon has been successfully used (See TEXTILE INDUSTRIES for June, 1953, pp. 149-51). This coating forms a tough film over the surface of the can which resists adherence of size. Teflon (polytetrafluoroethylene) is used by most mills on the first three or four cans of the slasher.

Teflon requires high temperature curing when applied to the cans and this work is therefore done in special processing plants.

**XF 121 Coating.** The Dow Corning Company has recently developed a silicone material, called XF 121, which also prevents can sticking. This coating may be applied to the slasher cans in the mill and cured on the slasher. Experience has shown that it is necessary to run cans coated with this material in excess of 180 F to prevent sticking.

# Here's a Self-

**KARDEX FILE** is heart of the records system. Colored plastic tab (arrow) is visible reminder of inspection dates.

## *Cone Mills system gives life record of electrical equipment at a glance; helps keep maintenance on schedule*

*Staff Prepared*

EXCLUSIVE

A NEW equipment and preventive maintenance record system recently put into operation at Cone Mills Corp. makes it possible to locate in a few seconds all pertinent data on the life record of any piece of electrical equipment in the company's Greensboro, N. C., plants. The system also provides for automatic reminding of inspection dates on equipment.

The system records the location and installation date of each piece of electrical equipment, inspections and their findings, replacements and repairs, location of spare equipment in storage, parts ordering information, and condition for major feeders and circuit breakers.

Although the record system is at present used only for electrical equipment, it is so arranged that it can be extended to include maintenance records on any parts of the production machinery or auxiliary equipment.

**Records System.** The heart of the arrangement is a Kardex file system. This consists of a metal cabinet with a number of shallow drawers, each of which contains a series of overlapping plastic pockets. A pocket is used to hold three record cards for each piece of machinery.

The bottom leaf of the pocket holds an 8 x 5 card detailing the maintenance record for the machine. The top leaf holds two 4 x 5 cards—one for the motor and one for the controls. These latter two cards give the specifications of the motor or controls on one side, and on the reverse side, their life record.

A space is provided for a third card to be slipped behind the motor and control cards. This card will contain special data, such as gear unit information on a gear motor, coupling information on a hydraulic-drive job, and the like.

A glance at these cards shows what motor is installed at a given machine, what controls are installed with the motor, and gives a history of the inspections and repairs on that machine.

The motor and control cards in a

# Reminding Maintenance System

certain machine pocket show the information on the equipment there at the time. When different motors or controls are installed, the cards are changed to correspond.

All motors in spare stock have their data similarly recorded, and the cards for these motors are filed by horsepower and speed with a notation of where they are stored. Cards for spare control equipment are handled in the same manner. When motor or controls are put into service, their cards are taken from the spare file and inserted in the proper section of the machine pocket.

A machine card is made for each individually motored machine, for each group of machines driven from a single line shaft drive motor, and for each piece of accessory equipment. Machines with multi-motor drives have a notation on their cards, "Refer to detail file." This detail file contains motor and control data in 8½ x 11 folders with binding clips, and in the folder are all pertinent prints, instruction books, and other manufacturers' data, as well as blank sheets for posting the life history of the equipment.

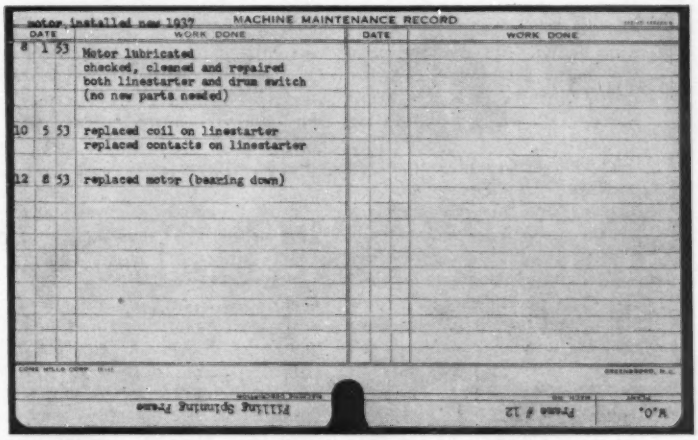
In departments where there are too many machines to make it practical to carry an individual card record on each motor, one card is carried on those handled by a group starter. For example, about 100 looms are carried on one weave room card.

Separate cabinets are provided for each mill, and separate drawers for different departments.

The files are kept current by having copies of each job order and repair order go to maintenance records, where all necessary data are posted on the proper cards.

**Location of Equipment.** The basic numbering scheme is tied into previously established machine numbers, since all production machinery is numbered for production use. Cards are grouped in drawers according to these numbers. Cards for accessory equipment, such as ventilating fans, condensate pumps, unit heaters, and so on, are filed at the end of each drawer.

In large production areas, a separate numbering system is required to pinpoint the location of accessory equipment. At Cone Mills, column lines across the width of each building are designated by letters, and bay spacing along the length of the building by numbers. Column lines have the same designation from the basement through any number of floors above. Location A-1 is always the northwest corner of the building. All columns and pilasters are stenciled with the appropriate letter and number. *(More next page)*



motor installed new 1937 MACHINE MAINTENANCE RECORD

| DATE | WORK DONE | DATE | WORK DONE |
|---|---|---|---|
| 8 1 53 | Motor lubricated checked, cleaned and repaired both linestarter and drum switch (no new parts needed) | | |
| 10 5 53 | replaced coil on linestarter replaced contacts on linestarter | | |
| 12 8 53 | replaced motor (bearing down) | | |

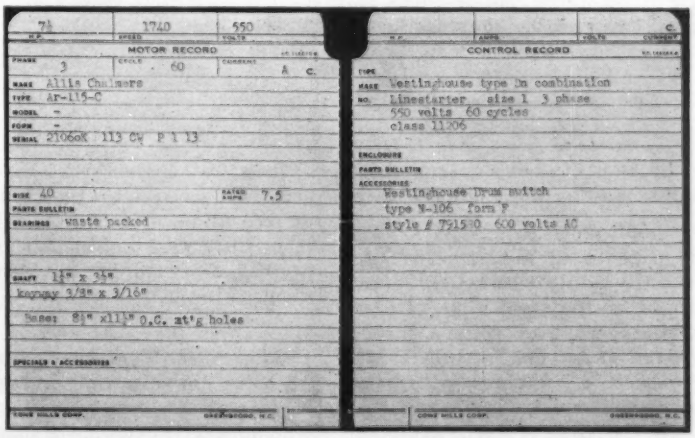
CONE MILLS CORP. GREENSBORO, N.C.

Fitting Spinning Frame

Frame # 12

W.O.

**MACHINE CARD** is the same on both sides. It details the maintenance, repair, and replacement record of electrical equipment used with the machine.



MOTOR RECORD

| | | | |
|---|---|---|---|
| H.P. 7½ | SPEED 1740 | VOLTS 550 | C. |
| PHASE 3 | CYCLE 60 | CURRENT A. C. | |
| MAKE Allis Chalmers | | | |
| TYPE Ar-115-C | | | |
| MODEL - | | | |
| FORM - | | | |
| SERIAL 21060K 113 CY P 1 13 | | | |
| FRAME 40 | RATED AMPS 7.5 | | |
| PARTS BULLETIN | | | |
| BEARINGS waste packed | | | |
| SHAFT 1¼" x 3¼" | | | |
| keyway 3/8" x 3/16" | | | |
| Bases: 8½" x11½" O.C. mt'g holes | | | |
| SPECIALS & ACCESSORIES | | | |

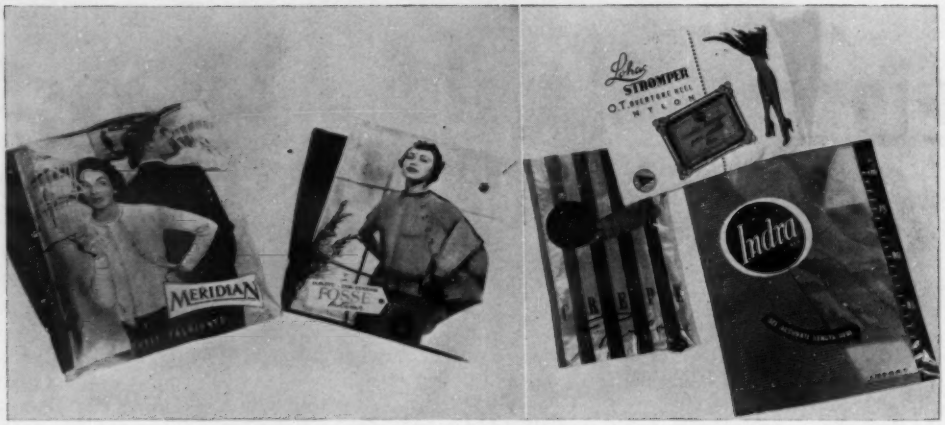
CONE MILLS CORP. GREENSBORO, N.C.

CONTROL RECORD

| | | | |
|---|---|---|---|
| H.P. | AMPS | VOLTS | CURRENT |
| TYPE | | | |
| MAKE Westinghouse type Dn combination | | | |
| NO. Linestarter size 1 3 phase 550 volts 60 cycles class 11206 | | | |
| ENCLOSURE | | | |
| PARTS BULLETIN | | | |
| ACCESSORIES Westinghouse Drum switch type W-106 form F style # 7915-0 600 volts AC | | | |

CONE MILLS CORP. GREENSBORO, N.C.

**SPECIFICATIONS** are given on face of motor card (left) and the control card (right). The reverse sides of these cards are the same, and give the maintenance and repair records for each piece of equipment.




## You May Get Ideas from These European Sweater and Hosiery Packages

A unique collection of cellophane packages from European manufacturers and converters was shown by the Sylvania Division, American Viscose Corp., in its booth at the recent National Packaging Exposition in Chicago.

Typical of the more than 200 packages on display are the sweater and hosiery packages shown in the accompanying photographs.

The cellophane sweater packages (left photo) carry halftone black and white illustrations showing how the sweaters look when worn. The sweaters in the illustrations are actually transparent windows revealing the color and knit of the garments inside. Lines and buttons are sketched on the transparent areas.

Shoppers can determine the length of the stockings in the Indra package at the right (right photo) by referring to the simple border scale. The Stromper package in the center is aniline printed, with a framed window. Bright green and gold striped package at left is for men's socks. Note odd-shaped window.

Although many of the packages exhibited were considered impractical for American merchandising methods, they did represent an entirely different approach which might serve as a stimulus for new packaging trends in this country, according to Sylvania.

## Do Right-To-Work Laws Hurt Economy?

The National Right to Work Committee, an organization with the objective of defending at all levels an American citizen's right to hold a job without being forced to join a labor union [TI for May, 1955, page 137], gives its answer to this question in an eight-page brochure recently published.

According to the Committee, the following facts show that the laws *help*:

The 12 states which have banned forced membership in unions since 1947 easily match or outstrip national average gains in total non-farm employment, total firms in operation, growth of civilian population, per capita earnings, total income payments to individuals, expenditures for new construction, retail sales, bank savings accounts, and private automobile registrations.

*(Continued from page 159)*

Location of accessory equipment is recorded by these bay numbers

**Maintenance Reminder.** A strip of paper with the names of the months printed across it is inserted at the front edge of each plastic pocket. A colored plastic index tab set to a month on the paper is a visible reminder of scheduled maintenance dates.

At the first of each week the drawers are checked, and job orders issued for the machines whose cards show reminder tabs.

When the inspection is completed, the job ticket is returned to the records department for posting on the history card of the machine involved. The reminder tab is then advanced to the next scheduled inspection date.

**Major Power Equipment.** Cards for major power equipment, such as oil circuit breakers, high voltage feeders, and main feeders, are grouped by geographical location in the particular mill to which they apply.

All high voltage underground cables are numbered as they leave the substation: HV-1, HV-2, HV-3, and so on. HV-1 indicates that this is the high-voltage feeder handling power to unit substation No. 1.

600-V air circuit breakers are lettered A, B, C, D . . . . This designation is carried on into the mill; thus, a spinning frame controller numbered 1A1 would indicate that pulling disconnect 1A1 would take power off this controller, and that it was fed through circuit breaker A of unit substation No. 1.

# Alabama mill men told HOW THEY CONTROL REWORKABLE WASTE

*Staff Report*

SPEAKING before a recent meeting of the Alabama Cotton Manufacturers Association, T. Holmes Floyd, vice-president of Opelika (Ala.) Mfg. Corp., said: "The Alabama Textile Operating Executives needs your support, encouragement, and cooperation, for a plant superintendent or overseer cannot get too enthusiastic over his extra-curricular activities unless he feels he has the wholehearted backing of his top management. It would be a fine thing if you insisted that your operating executives take part in these discussion meetings. I have found that the discussion and arousing of interest in one question has meant hundreds of dollars to our own company. It will pay dividends not only to send men but go with them."

Evidence of the support that the mills of Alabama are giving to the ATOE was demonstrated by the large crowd of mill superintendents, overseers, and other operating executives in attendance as the association met for its spring carding and spinning discussion at Duncan Hall, Auburn, Ala., April 9.

Eleven mills representing over 700,000 spindles answered questions which formed the basis of the discussion. Highlights of the meeting are presented here in condensed form for easy reading.

## Controlling Reworkable Spinning Waste

**Mill H:** We have vacuum scavengers on all our frames, with individual collectors on each frame. We set a standard for our reworkable waste which includes roving waste and ends-down waste. In our mill this standard is two per cent (of which about half is ends-down waste and a little less than half is roving waste).

We weigh all the vacuum scavenger waste by spinner each shift, and this waste is recorded and posted each day on a central board which shows the amount of waste made by each spinner on all shifts. We only show weight in pounds on this sheet — we feel that spinners understand better when waste figures are quoted in pounds rather than percentages.

These figures are compiled for the entire week, and at the end of each week the waste figures for each job are calculated as a per cent of production. This percentage is used to determine the jobs making excessive waste, and we are thus able to take immediate steps to correct the situation. In other words, we pinpoint the trouble and do not offend spinners whose waste is not excessive.

We have waste cans on each frame, and 30 minutes before shift change we take up the waste, weigh, record, and post immediately. We do not weigh roving waste separately by spinner, but do weigh by shift.

We spin counts from 4.25s to 22s, and are able to stay close to our standards for reworkable waste.

[*During the discussion, a question was raised as to the method of determining the amount of reworkable waste made when a central station vacuum scavenger system which returns the scavenger waste to a hopper in the opening room is used. None of the mills represented at the meeting had had experience with this type of system. Accordingly, TI's editors asked the management of Adelaide Mills, Anniston, Ala., where such a system was installed recently (see* TEXTILE INDUSTRIES *for October, 1954, pp. 122-24), to explain their method of determining the percentage of reworkable waste.*

*The reply: "When the mill is running well, the central vacuum scavenger system returns seven to eight pounds per hour to the opening line from the spinning room, with 10,000 spindles on 14s yarn. There is no way to determine this figure except by actual measurement, which we have done a number of times at different hours of the day, with results as stated. We do this by dropping the reworkable waste into a box and weighing it, rather than letting it run into the hopper in the opening room."*]

**Mill K:** From routine checks, sources of excessive waste are determined. In nearly all cases it has been found that our greatest source of excessive waste is from the frame operators and not from mechanical causes.

Before taking any drastic action relative to the spinners, we observe and evaluate them more often. We try to get all the facts before taking action. If we feel sure that the spinner can improve on her performance, we encourage her all we can by explaining to her the importance of controlling waste. She is shown our waste reports, and other reports or graphs relative to waste control. We ask for her cooperation, as a member of our team, in controlling waste.

We are striving to reduce our

reworkable spinning waste to 2.0 per cent; at present it is 2.63 per cent.

## New Long Draft Systems

Mills replying to a question on recent spinning changeovers or new long draft frames were unanimous that additional cleaning is required, as compared to conventional frames, because of the closer tolerances of the parts of the new drafting systems. [For a confirmation of this opinion, see "News in Brief," p. 91.]

**Mill A:** Wiped backsides of conventional frames every 24 hours, cleaned revolving clearers once a week. On spinning changeover, wipe backsides every eight hours, clean revolving clearers three times a week. Other cleaning has not been changed.

**Mill C:** Rolls are picked more often.

**Mill H:** We clean these cradles each four months and find that our ends down are not increased if we meet this cleaning schedule. Our cleaning schedule on conventional cradles is once per six months. We do find that we are troubled with chokes more than with conventional cradles. On our numbers (8s to 22s) we have not had to increase the weight on the top rolls.

**Mill J:** These cradles must be cleaned more often, they fit closer and chokes form under aprons faster than on old-type cradles. The best results are obtained when cradles and aprons are removed and cleaned every three months.

**Mill K:** We feel sure that if we had a complete installation of the changeover drafting system we would have to add at least one special clean-off man to each 40 frames on 10s to 25s.

## Rewound Filling

Only three mills reported that they are rewinding filling. **Mill C** is rewinding 12s to 22s rayon onto an 8¾" quill, 1 7/16" in diameter, holding 0.11 lb of yarn. The Mill feels that quality is improved because of the yarn being spooled; it is wound on the quill better, and has a more uniform bunch. However, the cost of spooling and quilling offsets the saving in spinning.

**Mill I** has two quillers, and feels that rewinding of filling improves quality, although no definite figures on cost and quality are available. This mill rewinds 34.5s with 0.1035 lb of yarn on the quill, and 22.5s with 0.1175 lb of yarn.

Experience with rewound filling at **Mill K** has been one of improved quality. Yarn quality is not only improved by being spun on warp frames, but also by being processed through the spoolers. Over-all costs are about the same as for yarn spun on filling frames, but the improvement in quality justifies the expense of quilling. **Mill K** rewinds 13.30s onto an 8¾" quill with 0.144 lb of yarn, using three 200-spindle quillers.

**ALABAMA TOE OFFICERS FOR 1955-56**

General Chairman: Homer Roberts, Geneva Cotton Mills

Vice-Chairman: Oliver Smyth, Pepperell Mfg. Co.

Secretary-Treasurer: Cleveland L. Adams, School of Textile Engineering, Alabama Polytechnic Institute

New Members Executive Committee: George P. Callaway, Sycamore Plant, Avondale Mills; G. Wendell Morriss, Birmingham Plant, Avondale Mills; Woodrow Dunn, Dwight Division, Cone Mills Corp.; and George A. Harris, Fairfax Mill, West Point Mfg. Co.

## Metallic Clothing

Only four mills reported experience with metallic clothing, but all four had favorable results.

**Mill C** has been using metallic clothing since 1929; the overseer of carding from this mill jokingly remarked that for a long time he was unaware that there was any other type of clothing. The mill is currently running on a mix of 1" cotton, 50 per cent Middling and 50 per cent Strict Low Middling bright, spinning 10s to 43s. However, carding results were said to be the same no matter what grade of cotton is used.

It is this mill's experience that sliver uniformity and nep count are improved compared to stock run on a wire-clothed card. Cylinder and doffer waste are of course practically eliminated when metallic clothing is used, but there is no effect on other card wastes or the length of fibers in them. There is some increase in dust and fly in the card room. This mill strips once a week.

At **Mill C**, no unusual maintenance problems have been encountered, except for chokes, which have to be pulled on schedule. It requires about six months to train maintenance men to care for metallic clothing properly.

Jams occur at this mill about once a month on 210 cards, and are usually caused by stock going over the doffer. The damaged wire can be cut out and replaced without pulling the good wire off.

Tips from **Mill C's** experience with metallic clothing: When equipping a card with metallic clothing, it is most important to grind the base wire perfectly even, to avoid having to grind the metallic clothing. Flats should be set closer than with fillet clothing; this mill sets the flats 0.010".

The opinion of metallic clothing at **Mill C** is summed up by the fact that when some cards were bought recently equipped with fillet clothing in good shape, the fillet was removed and replaced with metallic.

At **Mill H**, sliver uniformity was improved 2 per cent and nep count reduced 3 per cent when metallic clothing was installed. There is also less variation in nep counts. Yarn strength is unaffected.

This mill has run several grades of cotton successfully with metallic, although most of the stock is Strict Low Middling.

Cards are stripped at **Mill H** each 120 hours with a roll stripper; there is more dust and fly in the card room than with wire-clothed cards.

Cylinder and doffer waste is of

**ALABAMA MILLS REPORT BEATER SPEEDS AND PICKER PRODUCTION**

| Mill | Beater Speeds | | Picker Production |
|---|---|---|---|
| | Blade | Kirschner | Lb/Hr |
| A | 1020-1190 | 1100 | 360* |
| B | 1200 | 1100 | 421 |
| C | 1030 | 970 | 330 |
| D | — | — | 435 |
| E | 1000 | 1000 | 450-500 |
| F | 1020 | 1160 | 375 |
| H | 1100-1300 | 1025 | 410* |
| I | 1175 | 1036 | 390 |
| J | 1160 | 1000 | 400 |
| K | 1150 | 1000 | 343* |

*100% *efficiency.*

course reduced because of the extended stripping cycle, but other card wastes are unaffected. Fiber length of card wastes is the same except for flat strips, which are shorter.

**Mill H** reports that two men, working together on three cards at a time, require 28 working hours each to clothe a card with metallic, or a cost of $70 per card for installation.

**Mill H,** like **Mill C,** has met no serious maintenance troubles because of its metallic clothing. Chokes on the doffer and at the nose of the screen are a major problem, however, and are pulled every 120 hours. Maintenance personnel require thorough training to care for metallic clothing properly, but no more so than for regular clothing.

One jam has occurred at this mill in two years, when the comb belt came off and the comb stopped, causing damage to the doffer. Damaged wire is replaced by reeling off the good wire until the damaged part is reached, and then replacing with good wire. Damage to a doffer requires about three to four hours to repair; a repair job on the cylinder, which requires removal of the flats, takes six to twelve hours.

A tip from **Mill H:** if the web sags at the doffer, set the screen closer.

**Mill J** found no appreciable difference in variation or nep count when using metallic compared to a card with freshly ground wire clothing. However, variation and nep count are more constant.

This mill — which runs 1 1/16" Strict Good Ordinary cotton and cards at 18 lb/hour — feels that metallic clothing is most valuable for carding lower grades of cotton at a high rate of production.

Stripping is done with a roller once each shift at **Mill J.** No appreciable difference has been noted in dust and fly in the room, compared to the effect with wire clothing. There are fewer long fibers in the waste.

Disadvantages to metallic clothing noted by **Mill J:** added weight causes increased bearing wear; cards must be completely stripped down to reclothe; if bruised, it must invariably be replaced.

**DRAWING ORGANIZATION IN SOME ALABAMA MILLS**

| Mill | Roll Settings, Inches 1-2 | 2-3 | 3-4 | 4-5 | Type | Draft | Sliver Fed, Grains | Staple, Inches |
|---|---|---|---|---|---|---|---|---|
| A Carded | 1 9/32 | 1 15/32 | 1 21/32 | — | Medley | — | 59 | 1 |
| A Combed | 1 5/16 | 1 7/16 | 1 9/16 | — | Ideal | — | 57 | 1 1/16 |
| B | 1 9/32 | 1 15/32 | 1 25/32 | 1 15/16 | 5-roll lap back | 15.6 | 1000[1] | 1 |
| C Cotton | 1 3/16 | 1 7/16 | 1 3/4 | — | [2] | 6 | 55 | 1 |
| C Rayon | 1 11/16 | 1 13/16 | 1 15/16 | — | [2] | 6 | 55 | 1 9/16 |
| F | 1 3/8 | 1 5/8 | 1 3/4 | — | 4-roll | 6.78[3] | 54 | 1 |
| G | 1 5/16 | 1 11/16 | 1 15/16 | 2 1/16 | Medley | 8.41[4] | — | — |
| H | 1 5/16 | 1 7/16 | 1 3/4 | — | Ideal | 4.76[5] 6.00[6] | 59[5] 62[6] | 1 |
| I | 1 3/8 | 1 1/2 | 1 5/8 | — | Ideal[5] | — | — | 1 3/32 |
| I | 1 17/32 | 1 9/32 | 1 5/16 | — | Medley[6] | — | — | 1 3/32 |
| J | 1 3/8 | 1 5/8 | 1 3/4 | — | — | — | — | 1 |
| K | 1 12/32 | 1 20/32 | 1 24/32 | — | — | 8[7] | 70 | 1 |

[1] *Lap feed.*
[2] *4-roll breaker frames, 2-over-3 finisher frames.*
[3] 1-2, 2.67 ; 2-3, 2.00 ; 3-4, 1.27.
[4] 1-2, 2.54 ; 2-3, 2.34 ; 3-4, 1.31 ; 4-5, 1.20.
[5] *Breaker drawing.*
[6] *Finisher drawing.*
[7] 1-2, 3.05 ; 2-3, 1.81 ; 3-4, 1.45.

## Maintenance of Metallic Drawing Rolls

**Mill A:** Top rolls are cleaned every three weeks by comber section man, as follows:

1. Remove weight hook and take out top and bottom rolls.
2. Bottom rolls are cleaned each third Monday.
3. Scrub rolls with steel brush, clean gears, check for crooked rolls.
4. Check roll stands; clean all gear studs; check with level.

Four men check 10 four-delivery draw frames in eight hours at a labor cost of about $36.

**Mill F:** Our frame fixers do the cleaning. We clean top and bottom rolls each week, and overhaul them every three months. When we overhaul, we clean top and bottom rolls, remove bottom rolls, clean stands, add grease, and clean and fill top rolls with grease where we have ball bearing top rolls.

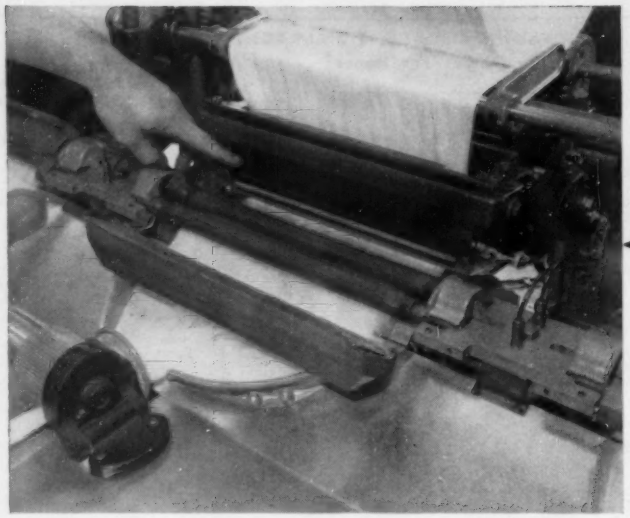
All gears are inspected for wear or looseness, roll settings are checked, oil holes cleaned, calender rolls and tube gears cleaned, and turn tables taken out and cleaned and oiled.

It requires two hours to overhaul a frame of six deliveries.

**Mill G:** Four drawing frames are cleaned daily by section men, equivalent to a cycle each 12 days. These men clean both top and bottom rolls, oil frames, and inspect gears for wear. It requires an hour

**LONG DRAFT ROVING DATA FROM ALABAMA MILLS**

| Mill | Drafts and Settings Between Rolls 1-2 Draft | 1-2 Setting, Inches | 3-4 Draft | 3-4 Setting, Inches | Sliver, Grains | Roving, Hank | Staple, Inches |
|---|---|---|---|---|---|---|---|
| A | 3.20 | Staple 3/16 | 2.90 | Staple 5/16 | 60 | 1.00 | — |
| B | 3.32 | Staple 5/32 | 3.22 | Staple 3/8 | 66 | 1.50 | — |
| C Inter-Draft | 2.57 | 1 15/16 | 2.57 | 1 3/8 | 55 | 1.00 | 1 |
| C Super-Draft | 5.28 | 1 15/16 | 3.10 | 1 3/8 | 55 | 2.50 | 1 |
| D | 2.42 | — | 2.77 | — | 65 | 0.90 | — |
| E | 2.94 | — | 3.57 | — | 50 | 1.75 | 1 1/16 |
| E | 3.78 | — | 3.57 | — | 50 | 2.25 | 1 1/16 |
| H 10" x 5" | 2.20 | 1 1/4 | 2.94 | 1 7/16 | 62 | 0.90 | — |
| H 12" x 6½" | 1.67 | 1 1/4 | 3.00 | 1 7/16 | 62 | 0.70 | — |
| I | 3.33 | — | 2.22 | — | 60 | 1.08 | — |
| K | 4.46 | 1 6/32 | 2.74 | 1 16/32 | 70 | 1.50 | 1 |
| K | 2.01 | — | 3.70 | — | 70 | 0.92 | 1 |



## Keys to Good Combing at Gastonia

At Gastonia Combed Yarn Corporation, Gastonia, N. C., it has been found that best results are achieved on combers by completely resetting each comber once every seven weeks, according to Ed Horton, superintendent. Each fixer resets one comber a week in making the rounds.

The Clara plant utilizes 16 Whitin Model J combers, each operating at 32 pounds per hour production.

**Lappers By-Passed.** Many mills use sliver lappers and ribbon lappers before the combers. This mill gets good results by using Saco-Lowell lap winders after cards, and drawing frames do all of the drafting on stock from the lap winder (instead of drafting on sliver lappers and ribbon lappers).

In this instance two Whitin sliver lappers were made to accommodate 11¾" lap spools. This spool size is the same as for ribbon lappers, and the sliver lappers are used merely for lap winding. The sliver lappers are run with 24 ends up (instead of the usual 20) to get more doublings.

Using 1 1/16" irrigated cotton, this mill makes 384 doublings before combing.

**Combs Reneedled.** In an experiment the top comb of one of the combers was changed from 68 round needles per inch to 74 flat needles per inch. This change made a notable improvement in quality by reducing neps and improving yarn appearance, Mr. Horton said. The yarn was upgraded at least one grade upon comparison with the government standards.

Now all top combs, including new ones, have been reneedled to 74 flat needles per inch on the basis of this improvement.

**Correct Timing Essential.** Timing of the combers is carefully controlled to insure good piecing; and, as a result, piecing can hardly be detected at the comber.

These combs are run at 150 nips per minute, and 20s to 50s single knitting yarns are made from this stock. A 740-grain lap is fed to the combers, and a 55-grain sliver is delivered.

A total of 49,152 doublings are made in this mill. Doublings are as follows: lap winder, 16; sliver lapper, 24; comber, 4; finisher lap winder after combing, 16; spinning, 2. The number of doublings is evident in the quality of the yarn produced in this progressive mill.

to do a good job.

Twice yearly all steel rollers are taken out, stands adjusted, frames leveled, and turn tables adjusted. Bottom steel rolls are oiled and felt pads saturated with a light oil. Top rolls are the sealed-type.

One overhauler and two helpers overhaul three of these frames per eight hours.

**Mill I:** One drawing section man is responsible for the thorough cleaning of six frames per week. On the day that two frames are scheduled for cleaning, he removes top rolls and cleans them, checks bearings, checks for worn gears, checks knock-offs, and oils where necessary.

On the days when only one frame is scheduled, the top and bottom rolls are removed and scrubbed and all roll settings are checked. All frames are checked for worn gears, studs, and bearings, and are oiled before being put back into production.

With this frame cleaning schedule our rolls are cleaned every nine days and each frame is overhauled every 45 days. Once a year the frames are lined and leveled.

**Mill K:** Drawing frames are overhauled every six to eight months. The frames are completely dismantled, shafts replaced or lined if needed. All gears are inspected and replaced where necessary.

The top and bottom metallic rolls are cleaned, bearings oiled, and the frames lined and leveled before being put back into production.

The drawing frame overhauling crew consists of four men. They overhaul two frames per eight-hour shift. We also have one man who cleans and scrubs both the top and bottom rolls, cleans all gears, and checks roll settings and resets if necessary on two frames per eight hours. This cleaning is done by one man on the first shift who works 40 hours per week on a total of 57 drawing frames.

## How Revonah Spinning Mills makes

# KNOTLESS TUFTING YARNS

*Staff Prepared*
EXCLUSIVE

BECAUSE any joinings in the tufting yarns wound for shipment at Revonah Spinning Mills, Hanover, Pa., must pass freely through the needles of tufting equipment uninterrupted at high speeds, and because clearance between the heavy rayon and rayon blended yarns and needle eyes is small, a method of splicing has been adopted which produces a strong joint no thicker than any point along the running yarn.

The splice, made in about 2 seconds, is accomplished through use of 3 elements: a pair of regular mill scissors toothed near the end of one of its blades in the same manner as a barber's thinning out scissors; Lotal, a synthetic latex supplied by U. S. Rubber Co.; and a wrist dispenser for the latex made by Glenn Looper Mfg. Co.

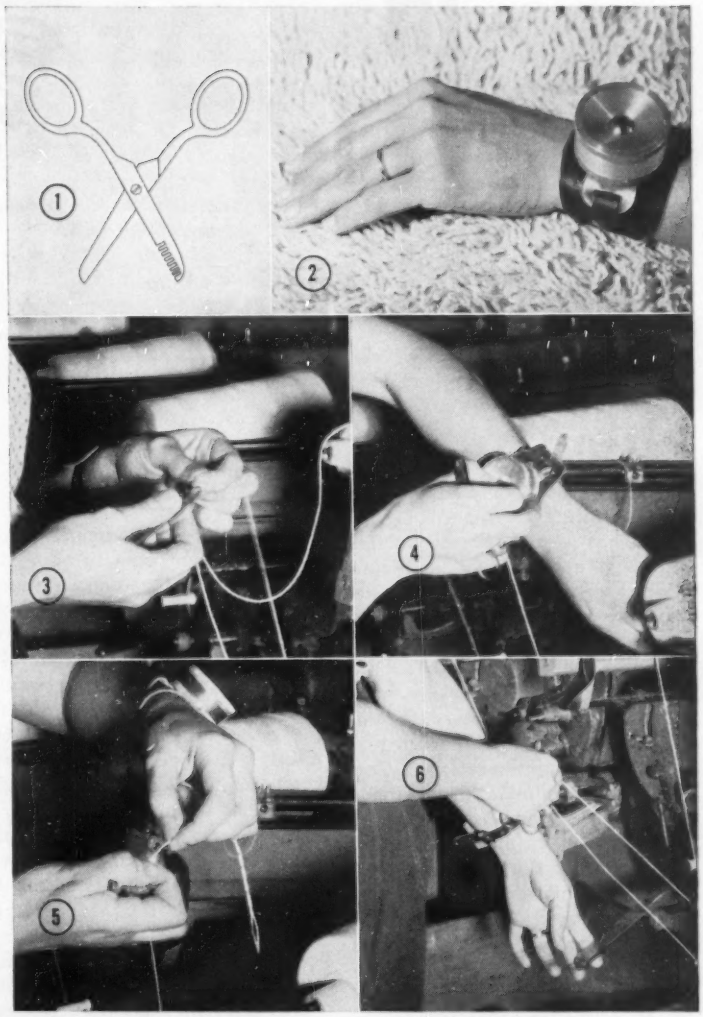
The dispenser is worn on the left wrist and is the same shape as, but smaller than, a shoe polish can. The adhesive is dispensed by the rotary movement of a steel ball fitted into a hole in the top of the device.

When a single end breaks on the winder preparing cones from spinning bobbins, the operator uses the thinning scissors on the two ends to be joined. This step, done on both ends at once, removes enough fibers so that when the two ends are joined, their combined diameter is no greater than the yarn being run.

The free end from the wind-up package is then touched to the steel ball in the wrist dispenser, picking up latex, and the splice is effected by rolling the two ends between the fingers.

Although the latex dries almost instantly, talcum powder is sometimes applied to the splice to remove stickiness found objectionable by some customers.

The accompanying photographs illustrate the splicing cycle.




**1.** Scissors for thinning yarn before splicing are regular mill-type, toothed near one end like a barber's thinning scissors.

**2.** Latex splice dispenser is worn on operator's wrist like a watch, holds a day's supply of splicing compound.

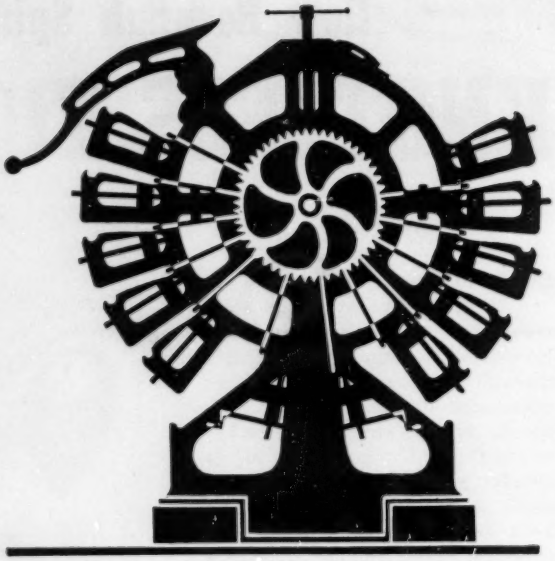
**3.** First step in splicing: thinning scissors remove enough fibers from each of the two ends to keep their combined diameter small.

**4.** Next, latex is applied to one end by touching it to the steel ball in the center of dispenser.

**5.** Ends are joined by rolling. Although latex dries instantly, talcum is sometimes applied to avoid stickiness.

**6.** End is invisibly spliced and restarted about two seconds after break occurs. This is slightly longer than knotting time.

# glycerine in textile printing



RECENT YEARS have been marked by many advances in textile printing. During this period, which has seen the introduction of many new fabrics and new dyeing techniques, glycerine not only has kept pace with printing progress, but has contributed to improved printing processes.

Of the many uses for glycerine in textile processing, the most important are its applications in textile printing preparations. This was reaffirmed in a survey made by the American Association of Textile Chemists and Colorists at the request of the Glycerine Producers' Association.

In this study, an indicative cross sectional picture of glycerine utilization was obtained through questionnaires sent to a selected list of cotton and rayon dyeing, printing, and finishing plants. One hundred and forty responses were received. A statistical breakdown of the data thus obtained showed that approximately 90 per cent of the glycerine used in these establishments went into printing and finishing. Of the 1,262,565 pounds of glycerine used in the 140 plants in one year, 1,062,710 pounds went into printing preparations. This indicates quite definitely that a high proportion of the some 4,000,000 pounds of glycerine consumed annually by the textile industry is used in printing.

**Properties and Effects.** Textile chemists have come to appreciate the properties that make glycerine such a valued component of printing preparations. Yates[1] for example has pointed out that glycerine's hygroscopic properties permit the preparation of dyestuff pastes that have excellent workability. The presence of glycerine promotes fixation and, when aging conditions are on the dry side, its moisture-retaining and -absorbing nature comes into play. Moreover, increased color value is obtainable from the dyestuff when glycerine is employed.

More recently, in a discussion[2] on vat color printing, it was stated that glycerine is the standard hygroscopic agent for use with vat print pastes because it retains moisture so well. Additional important points in the use of glycerine are its softening properties, together with its solvency for many dyestuffs of this type. According to this report, it is generally agreed that additions of up to 5-6 per cent of glycerine result in an increased color yield and fixation in vat color printing. Another important effect is the better leveling in blotch printing that glycerine affords.

However, it is also noted that excessive quantities of glycerine in the print paste may cause such faults as flushed colors and halos in discharge printing, and soft and easily marked-off prints, especially in screen printing and heavy blotch work, by any method of color application.

Others have also called attention to glycerine's value in obtaining improved results with vat dyestuffs in printing. Among difficulties associated with vat blues is flatting of shades caused by high temperatures in steaming. Best results are usually obtained by the use of rather less reducing agent than for other dyestuffs, together with an increase in the amount of hygroscopic agents, such as glycerine and urea, in the print paste[3].

In studies[4] on some conditions affecting the application of vat colors in both dyeing and print procedures, it was found that, with glycerine and a solvent medium, the temperature definitely influenced color yield. It was also

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EXCLUSIVE

observed that hygroscopic agents or solvents materially affected the results in printing. In these investigations, several glycerine-containing vehicles were employed in the studies of a number of vat dyes. Evaluation of the findings, showed that reduction and solution occur in the glycerine vehicle. It was also noted that the amount of dyeing which occurs is related to the amount of moisture present.

Of course glycerine is of value in connection with other types of colors used in printing. Recently, in discussing vigoureux or melange printing on wool slubbing with chrome-fast and Cibalan dyes, Werdenberg[5] advised that the use of small quantities of glycerine increases the yield and improves the fixation of color.

Sometimes glycerine serves to correct faults in the printing process. Because of its hygroscopic properties, the addition of glycerine to print pastes will increase the color yield and uniformity of almost any color that is later to be either acid or steam aged[6]. For example, Indigosol prints sometimes show poor color yield and unevenness after aging. Such goods may then be aged a second or even a third time. Investigation has shown that such faults are due to insufficient moisture in the steam that is being fed to the ager. In such cases, the addition of glycerine and a trace of copper sulfate to act as a catalyst will yield much fuller prints than obtained in the first instance.

Of related interest is a process[7] developed abroad, by which fast, bright prints of direct dyes may be obtained on cotton fabrics by adding a copper-glycerine complex to the printing paste. The proper mix is prepared by adding caustic soda to copper sulfate solution in the presence of glycerine. After steaming, the print made with this paste is passed through a hot solution of a fixer.

**Thickener Formulas.** Glycerine may enter a printing paste directly or as an ingredient of the thickeners that are always employed in the formulation of printing pastes. Its role in printing paste thickeners is well indicated in the report of Choquette and Habel[8] on the control of problems in aging textile prints. The data obtained in their investigation were all based on one standard print thickener, made as follows:

| | |
|---|---|
| Rongalite C (Sodium sulfoxylate formaldehyde) | 7.5% |
| Glycerine | 7.5% |
| Wheat starch | 8.5% |
| Caustic gum (British gum) | 15.0% |
| Potassium carbonate | 14.7% |
| Water | 46.8% |

Also indicative are the formulas used by Greene, Klein, and Fordemwalt[9] in studies to determine (among other factors) the influence of the vat carrier thickener in textile printing. All three printing gums used in their experiments contained the same proportion of glycerine, the "standard" gum consisting of:

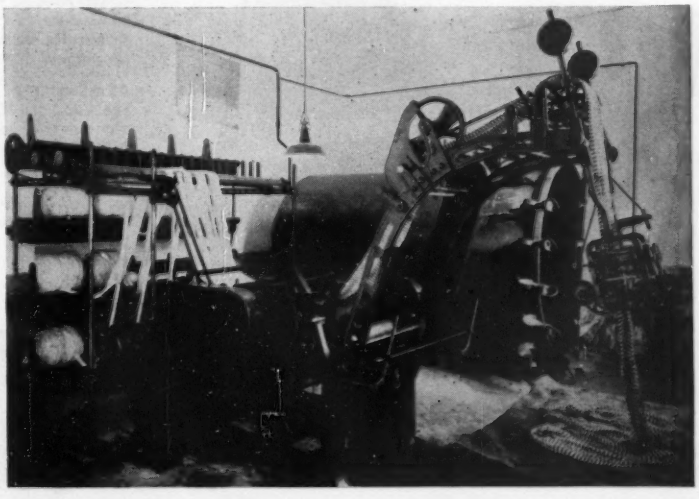
| | |
|---|---|
| Gum starch | 6.0 parts |
| B-2 gum | 7.5 parts |
| Sodium carbonate | 4.5 parts |
| Potassium carbonate | 4.5 parts |
| Hydro (sulfoxylate) | 7.0 parts |
| Glycerine | 5.0 parts |
| Water, to make | 100.0 parts |

The usefulness of glycerine in thickeners is underscored in a series of practical hints on the machine and screen printing of Bemberg rayon[10]. It is pointed out that one of the main difficulties met with in printing Bemberg is breaking of the fiber. Thus thickenings containing gum arabic, crystal gum, and similar products cause the fiber to break at the normal drying temperature (70 C). In contrast, thickenings of tragacanth or 1:1 mixtures of tragacanth and British gum to which at least 50 gm per liter of mineral oil or similar froth-preventing lubricant and 100 gm per liter of glycerine are added, have no deleterious effects on the fiber. Half of these quantities of oil and glycerine are sufficient to protect the fiber in screen printing. By using such thickenings, the amount of dry substance is considerably reduced and the threads are given an elastic covering which reduces their tendency to break.

Glycerine is also used with the cold swelling starch type of thickener for the printing of vat dyestuffs. It is said[11] that this type of thickener does not readily absorb moisture from steam. Hence, additional amounts of glycerine, urea, or other water-absorbing agents are needed when using vat colors either in direct or discharge styles.

**Printing Paste Composition.** Many examples are available in the technical textile literature to show how glycerine is used in preparing printing pastes. It is included in the standard alkali-carbonate-Formosul process which

**VIGOUREUX PRINTING** on wool slubbing or top is improved by the addition of small quantities of glycerine to the paste to increase yield and for better color fixation.



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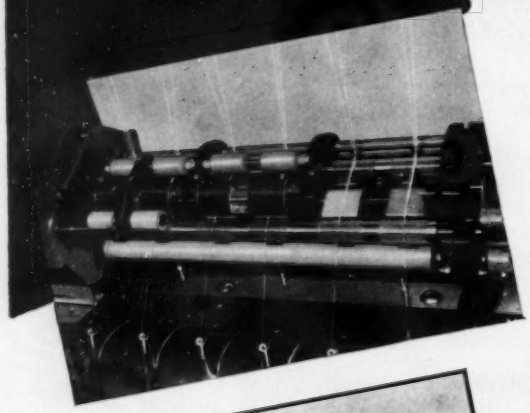

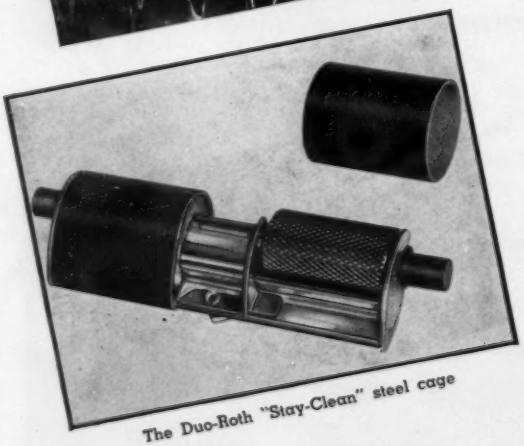

The Duo-Roth "Stay-Clean" steel cage

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Mill tested Duo-Roth assembly with anti-friction middle roll. Has sealed-in lubricant which eliminates danger of spoiling top or bottom apron with oil and friction drag. The rugged, steel cage is a precision product. Simple means are provided to accurately adjust the clearance between the aprons for the optimum in fibre control.

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has become the most generally used method of applying vat colors in printing. A general formula for such a print paste is given[2] as follows:

| | |
|---|---|
| Dyestuff paste | 1/16 - 1½ pints |
| Glycerine | 1/4 - ½ pint |
| Starch or British gum-tragacanth thickening | 4 - 6 pints |
| Potassium carbonate or soda ash | 8 - 24 oz |
| Formosul | 8 - 24 oz |
| Solution salt | 3 - 4 oz |
| Bulk in 1 gallon | |

Sanson[12], in his new series of procedures for obtaining interesting and novel effects by printing, also makes extensive use of glycerine. Illustrative is the following light gray paste used in achieving the optical illusion of crimped or crepon effects by printing on flat goods:

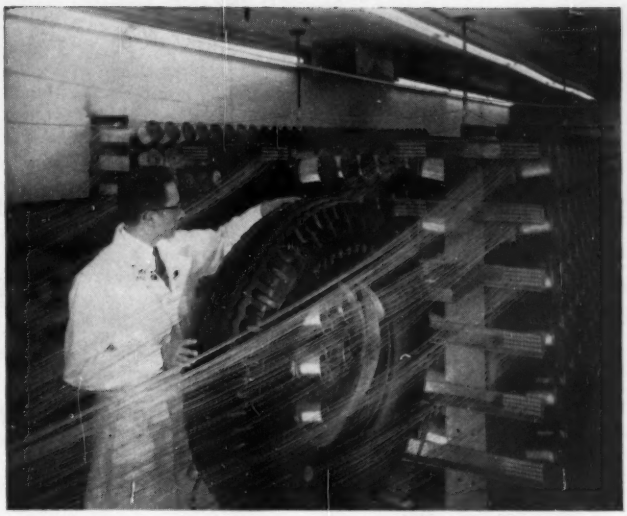
| | |
|---|---|
| Nigrosine | 7 gm |
| Glycerine | 100 gm |
| Water, boiling | 393 gm |
| Gum arabic thickening, 50% | 500 gm |

The problems associated with the printing of the newer synthetic fabrics are sometimes solved through the use of glycerine-containing pastes. For example, the following paste is recommended[13] for printing on nylon with disperse colors, with short steaming:

| | |
|---|---|
| Color | 3.0% |
| Diethylene glycol | 15.0% |
| Glycerine | 5.0% |
| Water | 27.0% |
| Thickener | 50.0% |

**Use in Other Processes.** Hygroscopic agents like glycerine are valuable adjuncts in more specialized processes such as screen printing and block printing. Thus, in presenting a checklist of problems for screen printers, Patrick[14] notes that hygroscopic materials are useful, not only as aids in cutting down the adhesion of the print paste to the screen, but may also contribute to color development in later stages. In a report[15] on the screen printing of rayon, it is suggested that the tendency of the paste to dry on the mesh of the screen can be countered by the addition of glycerine.

The role of hygroscopic agents in the screen printing of vat colors is to assist in the absorption of moisture during the steaming process and thus aid in the fixation of the dyestuff in the fiber. Glycerine, it is stated[16], is the best known and the most commonly



**CORDS OF STEEL WIRE** are reeled off these spools, then precisely spaced before entering a calendering machine which coats them with rubber at The Firestone Tire & Rubber Company, Akron, Ohio. The filaments twisted into these strands are only slightly thicker than human hairs. Each of the four plies in a Firestone wire cord tire contains 728 cords. The wire is coated with brass to provide maximum adhesion to rubber.

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Firestone, the first company in the nation to make tires of this type, manufactured its 100,000th wire cord tire during May, and in billions of miles of service not one ever has had a blowout, Mr. Firestone revealed. Here are reasons cited:

Basically, wire cord tires provide greater safety than conventional tires because steel is stronger than nylon, rayon or cotton. In addition, steel is highly conductive of heat. Wire cord carries heat rapidly away from such danger points in the tire as the tread area. Nor will steel wire stretch due to heat and inflation. Because the wire cord will not stretch there is no tension on the tread rubber, which prevents it from being cut and bruised under tension in sustained high-speed driving.

Because of the greater strength of steel cord, wire cord tires require only four plies. This leaves more room for tread rubber. Heavier treads can be used to provide higher mileage than possible with fiber cords and without danger of blowouts due to deterioration of the cord body. The tire bodies can be retread repeatedly.

Mr. Firestone predicted that within two or three years further refinements to the wire cord tire will give it an original tread life of 500,000 miles.

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## Carbonizing Wool? Consider These Pointers!

*Following are some suggestions for carbonizing wool cloth and raw stock which were taken from an English translation of the article "Concerning Carbonization" by G. Reichhardt which appeared in the February, 1955, issue of the German periodical "Textil - Praxis."* TEXTILE INDUSTRIES *is indebted to Dr. Paul V. Seydel of Seydel-Woolley & Co., for this translation.*

Cloth must be adequately pre-dried before it comes into the high temperature zone. It is the moisture which decomposes the wool here.

Variations in acid concentrations can cause variations in the final properties of the wool. To prevent this:

(1) Add fresh acid carefully; it mixes only with difficulty. Uneven pick-up of acid can be obtained on the goods when precaution is not taken.

(2) Squeeze goods evenly. If goods are not evenly squeezed, there will be variations in the amount of acid on the goods after the water is dried out. This will occur even though the concentration of the acid was uniform throughout the acid trough.

(3) See that cloth is evenly dried before it enters the carbonizing chamber to prevent migration of the acid. If certain areas are drier than others, uneven acid concentration will be the result.

Irregularities in dyeing can be traced to localized changes in the wool piece goods. These changes can be avoided only by the most careful work, paying strict attention to details.

Always use wetting agents that are acid-resistant. Those that are not decompose, and decomposition products cause difficulties in subsequent dyeing operations.

Wash goods completely before carbonizing. Certainly a greasy wool does not absorb the sulfuric acid as readily, but if the goods contain this fatty protector material and dirt layers unevenly, defects are again the result.

**Raw Stock.** Frequently the question is asked whether it is best to neutralize the goods immediately after carbonizing or, since they are going to be dyed in an acid bath anyhow, why not immediately dye them without rinsing. This cannot be answered for all conditions. It depends on the shades it is desired to dye the stock, as well as the individual circumstances in the mill. The author has without any difficulty dyed goods directly without neutralizing. It should be noted that:

(1) The goods should definitely not be allowed to stand for any time;

(2) The goods should be allowed to remain only in these short periods under uniform relative humidity; and

(3) The goods should not be exposed to light in their acid condition.

If these precautions cannot be observed, then neutralize the goods before dyeing. If spotty material shows up, then neutralize carefully.

Keep a careful eye on the neutralizing after carbonization. Be sure that the wool is completely neutralized. Under no circumstances should the wool show an alkaline reaction, but preferably slightly acidic.

When storing neutralized carbonized wool raw stock, the wool should not be too moist and should not be piled too high. Under these circumstances, the wool may develop heat which, although it may not lead to fire, will produce appreciable weakening of the fibers.

used substance for this purpose. In the screen printing of wool, Furlouger[19] advises that glycerine be added to the thickener when dealing with colors that do not behave well on steaming.

Glycerine is often employed in compositions used in block printing. It is especially valuable in printing on pile fabrics like plush and velvet. Various types of dyes can be used for this purpose. For instance, in considering the use of direct cotton colors for block printing on rayon velvet and plush, Wigfall[18] states that it is customary to dissolve the color in water containing a quantity of glycerine. When this has been done, a suitable amount of sodium phosphate solution is added and, finally, sufficient thickener to render the resulting color sufficiently viscous for the method of application.

Compositions based on acid dyes incorporate glycerine; e.g., the following typical formula for a block printing dye, as given by Ferre[19] in his report on the printing of imitation fur effects on plush:

| | |
|---|---|
| Acid dye | 310 gm |
| British gum, powdered | 325 gm |
| Glycerine | 75 gm |
| Potassium chlorate | 25 gm |
| Sodium oxalate | 130 gm |
| Ammonium hydroxide | 130 cc |
| Water | 5 liters |

When acetate rayon colors are used for printing on rayon velvets, such dyestuffs are merely incorporated with a suitable amount of thickener and some glycerine in order to obtain a serviceable printing color. With sulfur dyestuffs, glycerine is frequently put into the discharge color for the purpose of overcoming excessive loss of moisture at the places on the pile where the color has been applied[20].

Good results in spray printing may also be achieved by the use of glycerine. An interesting example is offered in a process for spray printing on woolen upholstery fabrics[21]. Since unchlorinated wool is usually employed for such purposes, ordinary methods of spray printing result in prints of poor rubbing fastness, for the dye solution does not penetrate.

Improved results are obtained by first wetting out with a suitable material (e.g., Solvadine BL, Ciba) and subsequently spraying with a dye solution to which this wetting agent has been added. The spraying solution can be prepared as

## Triple Lamination Process for Coated Fabrics

Bright colors and attractive patterns of a new kind of decorator fabric are locked under Krene plastic, safe from dirt, wear, and washing, by a new process of triple lamination, according to Bakelite Co., a division of Union Carbide and Carbon Corp. These durable locked-in color laminates are said to offer the coated fabrics market a new range of color, pattern, and texture for upholstery, draperies, wall covering, tablecloths, slip covers, juvenile items, etc.

Known as Filmtex fabrics and developed by Toscony Fabrics, Inc., these materials are produced in this way: Two flexible layers of Krene film in any required thickness—one layer of colored and brightly printed film protected by an overlay of clear Krene—are laminated to any type of fabric from silk to synthetic and even heavy drill or canvas.

Krene's resistance to wear, water, dirt, soaps, and chemicals shields delicate colors, designs, and fabrics from harm, and makes clean-up duties lighter. Filmtex also sews and tufts beautifully, resisting pulled stitches, peeling, cracking, and creasing.

In effect, the color fastness and brightness of prints formerly available on unsupported film only are brought to industries and applications requiring the added strength of a fabric backing.

follows:

| | |
|---|---|
| Dyestuff | 5 - 20 gm |
| Intensifier (Ciba) | 150 gm |
| Water | 330 gm |
| Glycerine | 100 gm |
| Tragacanth thickening | 300 gm |
| Acetic acid, 40% | 50 gm |
| Solvadine B. Conc. (10% solution) | 50 gm |

After drying, the prints are steamed for 30 to 50 minutes at one-quarter atmosphere; this treatment results in satisfactory rubbing fastness. It is said that Neolan dyes are especially suitable for the spray printing of woolen upholstery fabrics.

Glycerine also contributes to improved resist printing methods that have received increased attention during recent years. Its use is illustrated in the following potash-Rongalite stock paste employed by Lotz[22] in his resist printing procedures:

| | |
|---|---|
| Wheat starch | 70 gm |
| Water | 130 cc |
| Tragacanth thickening 60:1000 | 130 gm |
| British gum powder | 70 gm |
| Glycerine | 80 gm |
| Potash | 120 gm |
| Rongalite C (Sodium sulfoxylate formaldehyde) | 80 gm |
| Textile Printing Oil H | 20 gm |

Glycerine is also used in the production of zinc oxide paste, which forms the basis of a number of resist recipes[23]. This zinc white paste is prepared by thoroughly grinding together the following ingredients in a cone or roller mill until sufficiently smooth for printing:

| | |
|---|---|
| Zinc oxide | 300 lb |
| Glycerine | 1½ gal |
| Gum Tragacanth (2 oz/gal) | 35 gal |

Resist whites are made with this paste by adding sodium acetate, soda ash or sodium sulfite, or a combination of these materials. Thus, a resist white may consist of:

| | |
|---|---|
| Zinc white paste | 10 gal |
| Starch: tragacanth 1:1 | 7 gal |
| Sodium acetate | 4 lb |

Colored resists are made by adding one gallon of zinc white paste to six gallons of vat or azoic print color.

The value of glycerine is shown in Geiringer's process[24] for producing half-tones, pigmented dull effects, and the like. In this method, a resistant such as the following is applied onto the fabric with aid of a screen or a roller:

| | |
|---|---|
| Albumin | 50 gm |
| Titanium dioxide | 160 gm |
| Barium chloride | 75 gm |
| Sodium sulfate | 50 gm |
| Glycerine | 50 gm |
| Castor oil | 30 gm |
| Gum tragacanth (6%) | 260 gm |
| Water | 325 gm |

The addition of a discharging agent, such as sodium sulfoxylate formaldehyde or sodium hydrosulfite, to this resistant produces white effects on colored backgrounds.

It is obvious from the foregoing that despite its long history of usefulness in textile treatments, glycerine remains a truly modern adjunct in textile printing processes. New developments in this phase of textile technology have served to extend the usefulness of glycerine. Glycerine, in turn, contributes its versatility to improved printing pastes.

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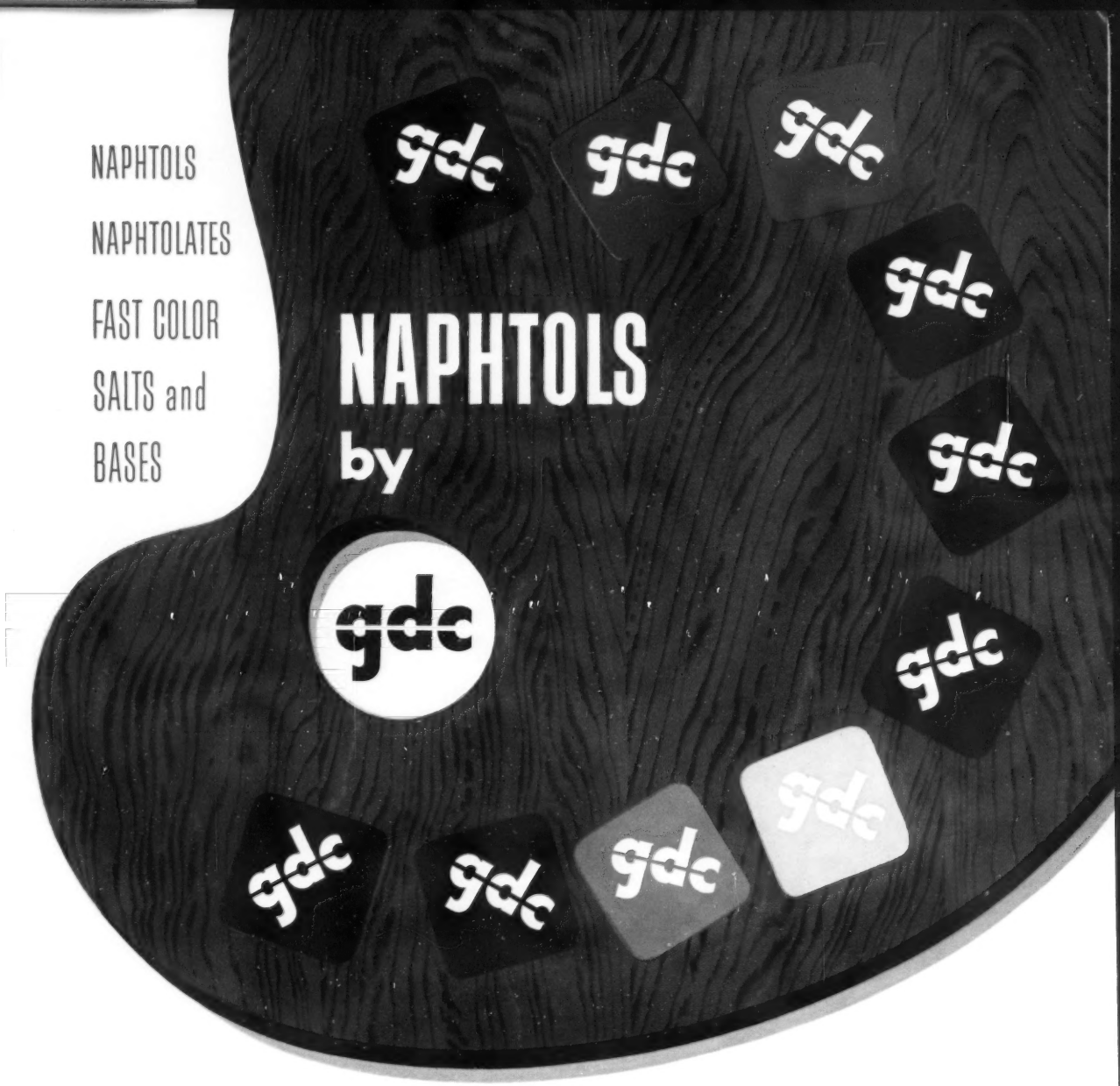


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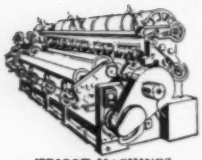

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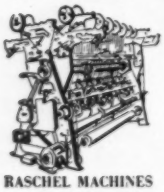

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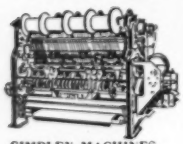

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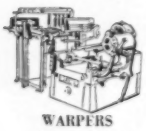

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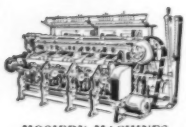

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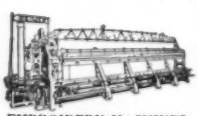

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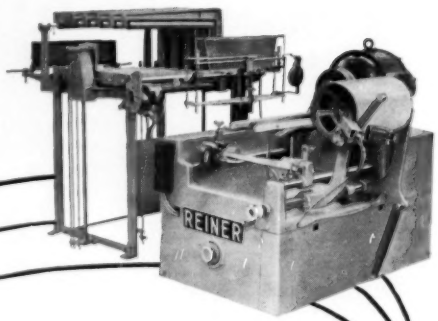


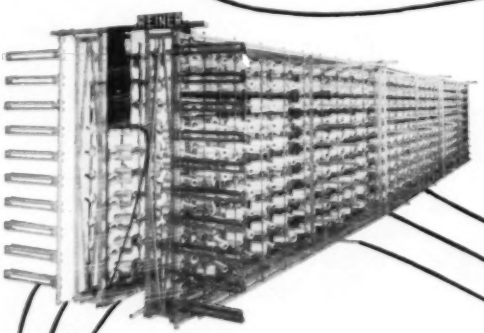

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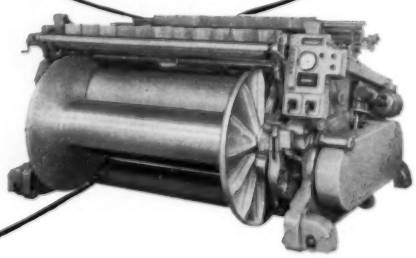

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# the guaranteed annual wage

## or "Let somebody else take care of me"

By Ringgold Arden

EXCLUSIVE

IT SEEMS as if the guaranteed annual wage agitation of the labor unions is coming to a head in the next negotiations with the automobile manufacturers. There is, of course, absolutely nothing new about the idea of a guaranteed annual wage. Up until comparatively recent times practically all hiring contracts were on an annual basis in Europe and America. In England for several centuries the guarantee for a working man who knew some sort of trade was around 20 pounds a year, or about $100 in American money during most of the 19th Century.

When an employer was paying a man $100 a year instead of $100 a week, and he only employed maybe three or four, or at most 15 or 20 people, it was nearly always possible for him to keep his people employed and dispose of the product of their labor. Manufacturing methods were simple and there was no such thing as mass production and distribution, and the employer seldom ran into the business depressions induced by the high pressure over-salesmanship of today. He was usually in a state of constant depression.

There are undoubtedly businesses in America which could institute an annual guaranteed wage with very little apprehension of not having work to keep their people busy. The Telephone Company, for example, is perpetually hiring new people, and practically never laying anybody off. A job with the Bell Telephone Company is about as nearly stable year-round employment as anybody could wish to have.

The New York subway system probably operates on about the same basis, and perhaps the street car or bus systems in most large cities would be in the same category. Such businesses probably could institute a fixed guaranteed wage with little likelihood of going broke, but businesses of this nature are the exception rather than the rule.

The automobile industry possesses one peculiarity worthy of note, in that it manufactures what is probably the only article produced in the United States that a man will do without food and clothing to get. The labor unions which so arbitrarily rule the automobile industry have profited by this fact, and it seems that no matter what the union does to the price of motor cars, the infatuated public is willing to pay the bill.

Maybe the automobile industry can work out a scheme for a guaranteed annual wage and let the general public pay the bill, just as it has apparently been willing to pay the bill for giving automobile workmen wages far in excess of those earned by most of the general public.

However, if the automobile industry provides this type of guaranteed annual income for its employees, the steel industry and the other big ones will soon get it too, and then it will become a matter of national policy, and it is anybody's guess how soon this will wreck the economy of the United States.

Since we are quite familiar with the ups and downs of the textile industry, we are convinced that a guaranteed annual wage applied to our industry three years ago would have left it thoroughly bankrupt by 1955. Maybe if this scheme had been put into effect on January 1, 1955, just as the textile industry was crawling out of its latest Slough of Despond, the fearful thought that if you hired somebody you were stuck with him, might keep down overproduction and cause the textile mills, which are chronic overproducers, to approach the market more circumspectly. *(Continued on page 177)*

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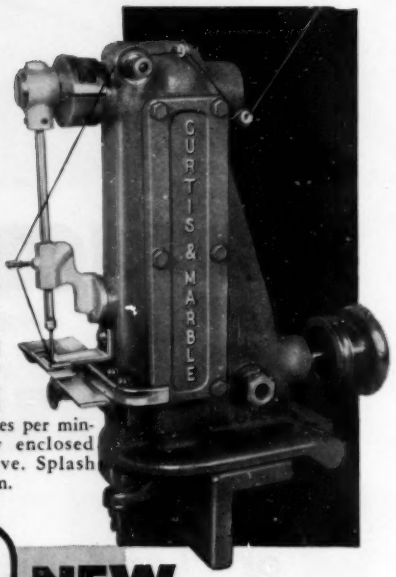


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Manufacturers since 1831 of finishing machinery for a wide range of fabrics

**Curtis & Marble MACHINE COMPANY**

WORCESTER • MASS.

*(Continued from page 175)*

It is reasonably certain that there are many industries like textiles which have ups and downs through periods of enthusiastic overproduction, followed by other periods in which the slack has to be taken up. Any such industry would have an inevitable smash-up if a guaranteed annual wage scheme was forced upon it during a period of peak production, just ahead of a big slump. If we are going to have this guaranteed annual wage plan, it would probably have to be imposed sporadically to hit an industry when it was near the bottom of a depression.

There is, of course, much to be said in favor of guaranteed annual wages, as there is much to be said in favor of the abolition of poverty, and the extirpation of sin, and the provision of boundless prosperity for everybody. The Communists have guaranteed all of this repeatedly. In Russia we understand that they do it every five years, but after the promise has been renewed five or six times, reports coming out of Russia indicate that somehow or other these schemes for a state-operated millenium all have a catch in them somewhere.

Assuming, however, that the labor unions are powerful enough to force the guaranteed annual wage on employers, it would then be utterly logical to have guaranteed annual profits for business. There is certainly nothing very fair about the business man having to guarantee his payrollers a sure income without somebody doing the same thing for him. Anything else would be obviously most unfair.

The problem involved, therefore, in this whole guaranteed annual wage discussion is not whether some potent labor monopoly can browbeat an industry into giving it this additional gravy, but what is going to happen to the country if it becomes national policy. The big labor unions have unmercifully fleeced the public time after time through the operation of their cartels in the big industries, whereby they have forced up the prices of many things because they have forced up the cost of making them.

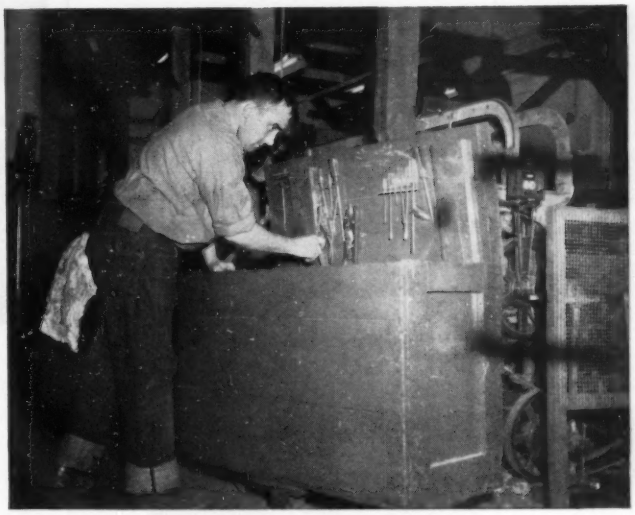
Forcing the automobile industry or the steel industry to guarantee the annual wages of its employees is just another raid on the public purse, and if the matter went no further than a few such raids, to which the public has become more or less accustomed, the whole thing could be dismissed with equanimity. If, however, the institution of such a wage system in certain industries is going to set a pattern for the country, a lot of us can start doing some heavy worrying about the consequences.

In any payroll group there is just so much money that can be allocated to the people on the payrolls without depriving some other group of something to which it is entitled. If the people in any payroll group are to be guaranteed against any loss of wages throughout the year, the employer must either cut his operations to a point where he feels certain he can keep everybody employed, or he must raise the prices of his goods enough to insure his ability to pay wages to people who are producing nothing.

This whole scheme looks to us like it is marching on toward national job insurance. A few years ago the Federal Government instituted a system of crop insurance, whereby farmers for a nominal premium could insure their crops against any sort of failure. A generous government undertook to pay for the staggering losses that this system soon developed.

The guaranteed annual wage looks very much like a re-institution of this same benevolent system that cost the taxpayers such a pretty penny when they were trying to protect the farmer, and now everybody will be protected. That is, everybody except the business man and the taxpayer.

Of course, the people who will be protected would be taxpayers, but since the introduction of the payroll deduction scheme of collecting taxes, the ordinary payroller does not seem to think of



## Mobile Tool Box Saves Steps

Loom fixer Harvey Massey, Jr., at Wescott Webbing, Inc., Pawtucket, R. I., decided to stop shuttling back and forth between his job on a loom section and his tool stand. So he built the mobile unit shown in the photo above.

The tool box includes a rack for often-used tools placed on the under side of the box lid and tool drawers which may be removed from the top of the box. A single pair of wheels on the bottom of the box makes it easy to roll from job to job.

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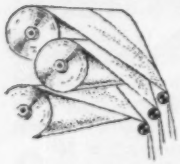

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Write for further information

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Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks.

himself as a taxpayer, but assumes that the taxes are paid by somebody else; and in many instances he is right, because these powerful labor unions are able to get wage increases to cover the taxes of their members and still leave them with more take-home pay than the total wages before taxes of most of the American workmen.

The only remedy that we can immediately think of to protect the business man in a guaranteed annual wage economy is to cut his volume of business to a point that he thinks he can maintain, and get rid of as many unsatisfactory employees as possible before the guaranteed annual wage system takes effect. Certainly, any employer who felt that he was riding a boom and headed for a depression would know that he has got to trim some of his sails when the boom subsides.

He can pursue the customary practice of laying off people when he doesn't have work for them or he can play the part of prudence by laying them off in advance and then seeing what happens after he has a labor force for which he is responsible, whether it works or not.

Such a system would no doubt work very comfortably in many countries with a low standard of living which everybody seems to be willing to maintain, but we can't help wondering how it would, or could, work in the United States, where few people are content to live within their means, and where the tremendously high standard of living has been reached and is maintained by the very kind of daring business activity which would tend to be smothered by the wet blanket of job insurance carried by the employer.

Our big problem is to constantly find more jobs, not to guarantee fewer.

One of the stock arguments of the labor union people is that an industry forced to support its workmen during the year would work harder to sell its products and get something for the employees to do. Anyone familiar with conditions in the textile industry for the past year or so would wonder how this nice scheme could be made to work. It would have been just as simple, and maybe more so, for the people laid off by industry to look harder for jobs and get something else to do. It would probably be just as easy for workmen to do this when there are no jobs, as for industry to get business when there are no buyers.

The union people, however, always have the firm conviction that the members of their particular rackets must be protected at all costs from the hazards of life, and these union people have some very peculiar ideas about how to accomplish the beneficial results at which they aim. One union leader was reported to have stated that we had narrowly escaped a "full-blown depression," and that what we needed for prosperity was higher prices and higher taxes.

Of course, in making this statement he did not phrase it so crudely. The way the newspaper report read was, " . . . said the economic future looks none too bright unless there is a big increase in consumer buying power through higher wages and increased Government spending."

This means exactly the same thing, but it sounds prettier. Putting it one way would draw hisses from an audience, while putting it the other way generates applause. Selling a gold brick is purely a matter of the approach.

This guaranteed annual wage thing strikes us as a typical gold brick, with a thick enough shell of pure metal to benefit considerably those who can manage to get the shell, but inside will still be the big hunk of worthless stuff. Evidently the big labor racketeers think that they are powerful enough to get the shell and let the general public enjoy what is left.

## *Tips on Processing Arnel Staple—Opening through Twisting*

A 12-page booklet (TD-14) containing preliminary information on the processing of Arnel staple fiber was recently published by Celanese Corp. of America, Textile Division, Charlotte, N. C.

According to information contained in the introduction, it has been found that Arnel processes easily and with the same efficiency as acetate staple. Most of the work has been carried out with 2.5 denier, 2-inch staple on the cotton system of spinning. Some experience has been gained on the American and woolen systems using 5 denier fibers and staple lengths up to 4 inches.

Some of the suggestions given are:

1. It is usually not advisable to add a lubricant or a finish when processing this fiber on the cotton system.

2. No special precautions or techniques are required for opening Arnel. Satisfactory range of relative humidity conditions is between 55 and 65% at room temperature of about 80 F. Ageing aids lap formation and prevention of card loading.

3. Optimum results and uniform blends have been obtained by using a sandwich method with a double opening or feeder process and a single process two-beater picker with blending reserve. Mechanical blenders can be used. May be beneficial to blend at drawing for special yarns such as Arnel with cotton.

4. Arnel can be carded on either roller top or flat top cards. Typical settings are given for both types of machines.

5. Satisfactory results have been obtained with both single and two-process drawing.

6. Commonly used roving and spinning frames, twisters, and winders produce satisfactory results.

General information on blends of Arnel with rayon, cotton, nylon, Dacron, and wool is presented; also a table listing the tenacity and elongation of typical spun yarns of 100% Arnel and blends of Arnel with cotton, Dacron, nylon, rayon, and wool.

How to solve the problems you'll meet in making

# S-T-R-E-T-C-H

EXCLUSIVE

THE LADIES' hosiery industry is in a buzz discussing, experimenting with, and manufacturing over-all stretch hosiery for the lady of the house. The men's hosiery manufacturers have sold stretch hose to Daddy; and now everyone, including hosiery buyers, is working on Mama. It looks like it is going to be a big thing, from all outward appearances, and any ladies' hosiery manufacturer who is not keeping up with all angles of the stretch market may get left behind.

In the men's market, most stretch socks are made of the two-directional compensated twist yarn. One commonly used yarn is known as Helanca; many other names also designate stretch yarns. These yarns have a very soft feel, a great ability to stretch, and wonderful recoverability. They are manufactured by variations of twists coupled with heat setting treatments.

Some ladies' full-fashioned hosiery manufacturers have been and are manufacturing stockings of this yarn; but because this type of stretch yarn is multifilament, the stockings are not very sheer. When low-denier (10-, 12-, or 15-denier) multi-filament yarn becomes available, there is a possibility this stocking will be made sheer enough for the mass American market.

Early last fall, several hosiery manufacturers announced that they were going to make a ladies' over-all stretch stocking that would be as sheer as the ones demanded by the mass market. A great many of these stockings have now been made and sold, and they seem to be meeting with a good deal of success. These stockings are manufactured from a high-torque yarn.

Briefly, high-torque or super-twist yarn is made by twisting and heat setting combinations on multi-filament or monofilament yarn. When the yarn is delivered to the hosiery manufacturer, it is on either a cone or tube and is very "lively."

**Knitting Problems.** The big problem in manufacturing hosiery from this type of yarn is keeping the yarn from snarling and knitting into the hose after it has come off the cone.

There are many ways to control this liveliness of the torque yarns. Among the more popular are large caps on the cones, and a tissue paper-type tent placed over the top of the cone, through which the yarn can be delivered without snarling. The tissue paper presses against the cone and keeps the yarn from delivering more yardage than is necessary in the stroke of a knitting machine.

There are numerous other complications that arise in knitting yarn of this type, and many of these problems can be solved only after extensive trial and error by

**TWISTED OR DOUBLED YARN** makes defects in the fabric. This difficulty must be watched carefully when using high-torque yarn.

# F-F HOSIERY

By Harold T. Sumner
*Sumner Hosiery Mill*

the individual mill. What works well in one mill may not work in another.

Apparently, more hosiery mills are running the high-twist torque yarn than any of the other types. This yarn is primarily run on full-fashioned machines, since seamless machines have not yet been developed with two-carrier delivery systems. Knitting this high-torque yarn presents different problems from those of a regular type yarn, but these are overcome with various devices and systems.

**Defects.** The primary problem in running torque yarn is to deliver it without twisting or doubling back and thereby causing bad places in the fabric or a break in the yarn. There is also the problem of getting a good selvage on the knitted fabric, since the yarn has a tendency to throw loops on the edge, which may give considerable trouble when the stocking is seamed.

These difficulties can be overcome by adjusting the yarn so that it has the proper tension when delivered from the carrier tube.

Naturally, precautions have to be taken to see that knitters always have one left-twist and one right-twist cone on each individual head so that the yarn will have a balanced twist and the fabric will lay out flat and not curl in a spiral.

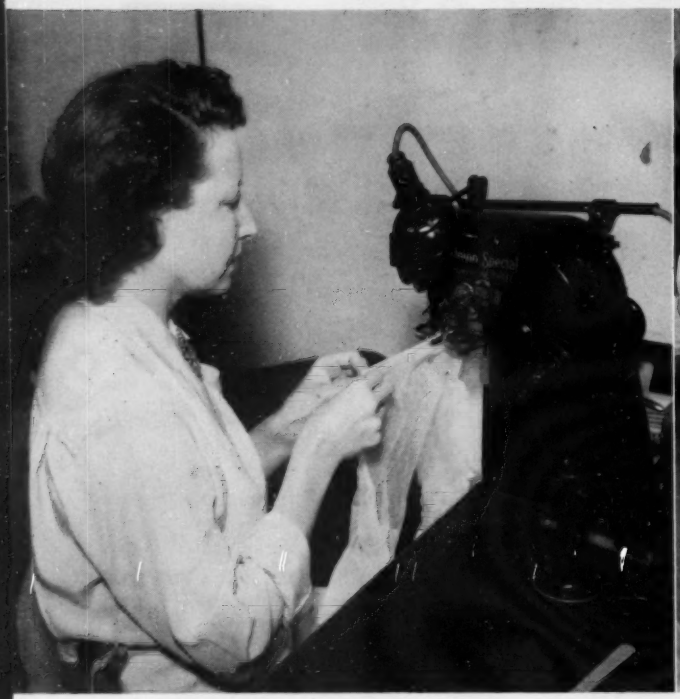
**Seaming.** Seaming this high-torque stocking is also quite different from the conventional method. The seamer has to get used to handling the new type fabric, and she must not, by any means, pull the stockings when they are being fed into the seaming machine. It helps a great deal to remove the puller plates from the seaming machine and also to reduce the tension on the fabric uncurler to a minimum.

This type of stocking must be seamed in an unstretched position, otherwise the seam will be curly and will have a ripple effect when the stocking is finished in a short length. Reducing the number of stitches per inch on the seamer is also very necessary so that the seam will not "snake."

**Inspecting.** In inspecting this torque-twist stretch stocking, it is important that it not be stretched to an extreme, because this will distort the seam somewhat when the stocking is finished.

**Finishing.** There are also many problems to be worked out in the dyeing and finishing operations on this stretch-type hose, but these are easily conquered after the proper shape boards are acquired. Naturally, a stocking that is as short as the over-all stretch stocking requires a special board. This shape is best worked out by

**TENTS OVER CONES** help prevent twisted or doubled yarn. Care is necessary to be certain one cone of left twist and one cone of right twist yarn are used. Cone tips identify twist.



**FEEDING THE STOCKING** at seamers calls for no pull on the fabric, otherwise seam will be curly.

**DO NOT STRETCH** stockings on inspection forms. This practice causes distorted seams at finishing.

each individual mill, since stitch formation and the number of narrowings vary in the knitting operation. The board should be a wide miniature version of the regular finishing board, and the foot should be quite short.

**No Preboarding.** It is not necessary to pre-board hose made of high-torque stretch yarn, since the yarn in the leg has been heat-set previously in order to get the torque. The foot and welt yarn, of course, should be heat-set by some system before dyeing so that the welt and foot yarn will not be distorted in the dyeing operation. After dyeing, the stockings are boarded, which is the final finishing operation.

In dyeing, there is the problem of what finish to use, and this must be the choice of the individual mill, depending on the hand or feel desired in the finished stockings.

**Many Yarns Available.** About the time that the high-torque was introduced to the trade, the Deering-Milliken Research Trust introduced "Agilon." This is claimed to be a nontorque yarn and is probably more in the crimp-yarn category than any other. This yarn is available in monofilament as well as multifilament, and seems to be more successful when used in multifilament form.

Agilon is not as "stretchy" as the lively torque yarn or Helanca. It does have an extremely soft feel, and no doubt has an important place in today's market.

The 15-denier Agilon yarn is difficult to run on the knitting machine. However, one advantage that it has over the torque yarn is the fact that it can be run by a one-thread delivering system instead of the two-thread system necessary in the high-torque yarn. Agilon seems to have good adaptability in the seamless field, since seamless machines do not have multifeed delivery attachments.

**NEW EQUIPMENT**

and materials for the knitting industry are described in the "New Equipment Section" which begins on page 205 in this issue. And if you want more information about any of the products announced, just ask for it on the handy return card on page 227; no postage is required.

Another yarn that seems to have a place in the ladies' full-fashioned field is "Ban-Lon." This yarn is similar to Agilon in the multifilament yarns, but it does not have quite as much stretch. As yet, it has not been developed in a monofilament nylon; and this, of course, limits its use in the ladies' hosiery field.

Ban-Lon is a nontorque yarn and can be run with the one-carrier system, similar to Agilon. There is little difficulty in running Ban-Lon, since it delivers from the cone and is knitted into fabric in the conventional way, and it is not necessary to add any attachments or tension devices. Ban-Lon is successful as a reinforcement yarn in ladies' hose and is comfortable when worn.

There is no doubt about it, ladies' full fashioned and seamless stretch stockings are going to be here for a good while; and every mill should certainly keep up with the latest developments in this field. There are many descriptions and types of yarn, and to write

**BOARD IS PROBLEM** in finishing to obtain desired size. This may be done by scaling down regular form. Reduce scale by 1/3 to start.

about them all would be far too lengthy for an article—it would take a book.

What percentage of total sales will be stretch hosiery in the ladies' stocking business will probably be answered in the next three or four months. Most stores at the present time have a good selection of stretch stockings in stock, and their reorder business will depend solely on the satisfaction of the lady who wears the stockings.



## 25 Years of Full-Fashioned Knitting

Modern equipment enables hosiery manufacturers to produce 50 million dozen pairs of women's full-fashioned stockings on 7,900 machines, while back in 1929 14,800 machines were required to make a mere 30 million.

This is only one of the facts revealed in the 1954 Statistical Survey which is the 25th Anniversary issue of a report containing statistical information on the full-fashioned hosiery industry that has been published annually since 1929 by Textile Machine Works in Reading, Pa.

Other interesting data pertaining to this 25-year period are:

(1) Total number of mills has more than doubled since 1929, while small mill units (operating 10 machines or less) have increased sixfold.

(2) 73 mills out of the 311 total for the nation in 1929 are still operating today.

(3) In 1929 the South had 6.5 per cent of the full-fashioned machinery in place in the U. S. Today it has almost 60%.

(4) Today Pennsylvania has about 29 per cent of the machinery, while in 1929 it had 61 per cent.

**What Happened in 1954?** As for the single year 1954, the second largest postwar drop in the number of full-fashioned knitting machines in place in the United States occurred, the Survey indicated. 1,061 machines were removed from the records, resulting in a new total of 7,956.

Commenting on this, the publisher said:

"Such a shrinkage in productive capacity would seem to indicate that the mills presently operating will have less trouble in finding a willing market for their goods at a fair price. This is especially true in view of the increased population and expanding market . . . . These facts, along with the excitement caused by 'stretch' type stockings, lead us to believe that 1955 may have the good fortune to be labelled the 'turning point'."

Highlights of the findings for 1954 follow:

Postwar equipment in U. S. mills now accounts for 64 per cent of the machines as compared to 58 per cent in 1953.

In the gauge picture, 60 continued its constant rise, while 51 and 66 remained comparatively static. 27% of the machines are now 60 gauge.

North Carolina and the South show a continuing increase in the number of machines, while the other territories show a comparative decrease. North Carolina now has the largest number of machines, with Pennsylvania second.

664 mills were in operation at the end of 1954, involving 605 companies or managements — 78 companies less than the 1953 total. 121 mills liquidated during the year with only 28 new mills starting.

12 machines were the average number operated by each mill. 470 mills operated 10 machines or less, utilizing 25.3% of the total knitting equipment. There was a slight decrease in the smaller size mills.

**The Industry Abroad.** The modernization program in England which has been under way for several years continued during 1954 — England ranked first not only as a purchaser of new machines but also of used postwar machines.

Analysis of the sale of used machines to foreign countries shows that the average export machine in 1954 was a 30 section 51 gauge type, built in 1946. Machines shipped from Pennsylvania had an average age of only 6.69 years, while the southern states disposed of their 11.48 year old machinery. 65 per cent of the mills operated only 1-10 machines.

**Full-Fashioned Outerwear.** A new feature in this year's survey is the resume of the full-fashioned outerwear knitting industry. There are 204 full-fashioned outerwear knitting machines in use in the U. S. Of these approximately 70% are 21 gauge. 49 mills were operating with full-fashioned equipment at the end of 1954, 71% of which are located in Pennsylvania, New York, and New Jersey. It is estimated that 3.3% of the total sweaters produced are full-fashioned.

Knitting

# One Needle Per Dozen

**THE MACHINES** are lined up in two rows of 15 each. Looping and inspecting are done at left rear (not shown).

**That was the needle breakage record at Seam-Less Hosiery Mills after three weeks of operation of 30 new electronically controlled automatic circular hosiery knitting machines. . . .**

*Staff Prepared*
EXCLUSIVE

AS A RESULT of long planning by the mill and the up-to-date design of seamless hosiery knitting machines installed in the mill, needle breakage, waste, and seconds figures being turned in a short time after the machines were placed in operation are low. The mill is Seam-Less Hosiery Mills of Reamstown, Pa.; the machine is Fidelity Machine Company's new "400" Ladies Seamfree Hosiery Knitter [TI for January, 1955, page 81].

**Mill Planning.** The entire project took about 18 months to complete. It was based on a survey of the seamless market potential by mill head Ralph Smith which resulted in an estimate that seamless hosiery needs will not be fully satisfied until 1960. Further, in the industry-wide build-up of equipment necessary to turn out the annual requirements, it was felt that foreign seamless production would not be a disturbing factor.

With the decision made, plans were completed to purchase 30 of the new knitting machines. Machine design was leveled at the particular requirements of seamless women's hosiery and promised advantages of electronic controls, flexibility, compactness, cleanliness, and parts interchangeability.

The 30 machines were figured for a start to require the attention of one knitter and one fixer for each of the three shifts they would be operating. Far-future thinking called for increasing the number of machines from 30 to 50, using the same fixing personnel and adding another knitter to each shift. General expansion plans are pretty much limited to that figure; mill management desires to remain small.

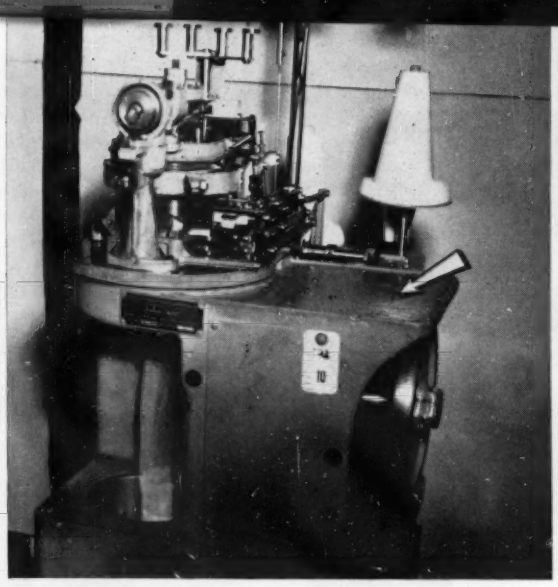
**Results: The Product.** Features of the "400" machine are presented on the opposite page. The stocking it produces is described by the mill as "clear, beautiful fabric . . . without distortion in the welt."

Much of the basis for this fact is that there is no take-up device on the machine to disturb fabric surface; one complete stocking ready for looping drops in the well beneath the needles about every 16 minutes (varying slightly depending on length being knitted).

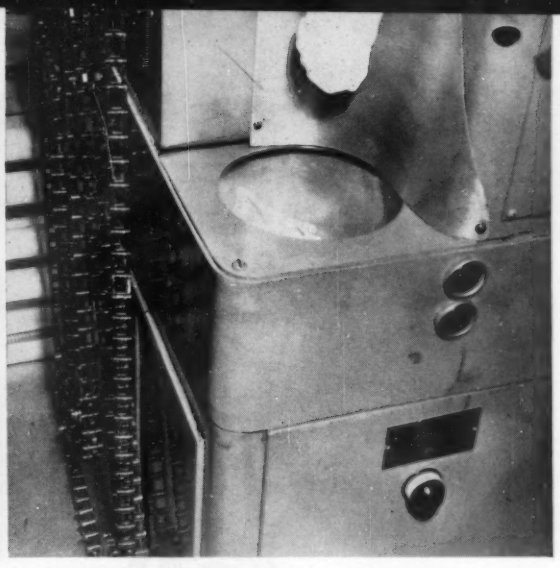
The stocking so produced is characterized by a welt stretch of 12½ inches, an important property in assuring proper leg fit in this constant diameter knitting.

No customer complaints have been received on fit. This characteristic is attributable to the machine slow-up when the welt is being knitted.

**Results: Needle Breakage:** Because the machine knits at "the right speed for the right thing at the right time," needle breakage has averaged one needle per dozen pairs of stockings knitted; and mill management feels that this figure



**FIXING IS SIMPLIFIED** by interchangeability of parts. Broken needles are placed on the table (arrow) when removed until record is made.



**EVERY 16 MINUTES**—that's the time required to complete the knitting cycle—a stocking ready for looping drops into this well.

## Features of the Fidelity "400"

The "400" is an electronically controlled automatic circular hosiery knitting machine. It is powered by a ¼ hp motor, including an anode transformer with 220-, 440-, and 550-volt primary, and can be activated by plugging into any common industrial power system. Controls, shown being operated in Fig. 1, consist of start and stop buttons; red light below is visible for 100 feet and glows when machine is stopped.

**Flexibility.** The precise speed is selected by a row of speed cams which are mounted to the extreme end of the single 8" diameter drum (see Fig. 2). These speed cams are pre-positioned so that the movements are accurately synchronized to the portion of the stocking being knit.

The machine speed is 200 rpm which is optimum for 15 denier monofilament nylon.

The base speed as well as all other speeds used in the making of the stocking can be varied by a screw driver adjustment as new yarns and innovations in knitting requirements are developed in the industry. The machine slows down to 10 rpm whenever a yarn change takes place, depending upon the portion of the stocking being knit.

Stocking pattern is controlled by a chain which selects type and duration of knitting at head through the switch cam bracket (Fig. 3).

**Compactness.** The machine measures 29 inches long by 27 inches wide by 46 inches high, and weighs 550 pounds. Working cylinder is 17 inches below eye level of the average knitter.

**Interchangeable Parts.** Machining and assembly of parts are done on a precision basis, allowing interchanging among various machines in any given group installation.

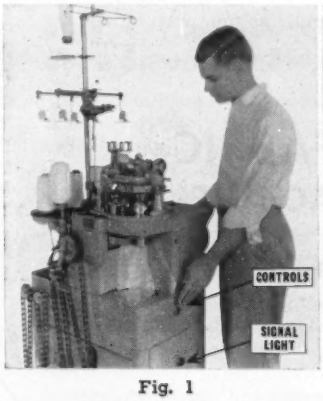



Fig. 1

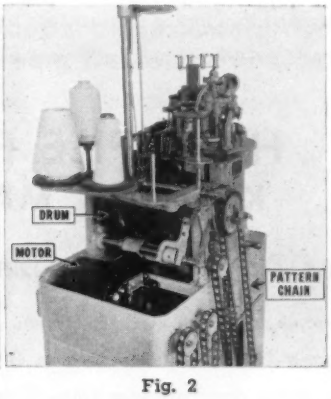



Fig. 2

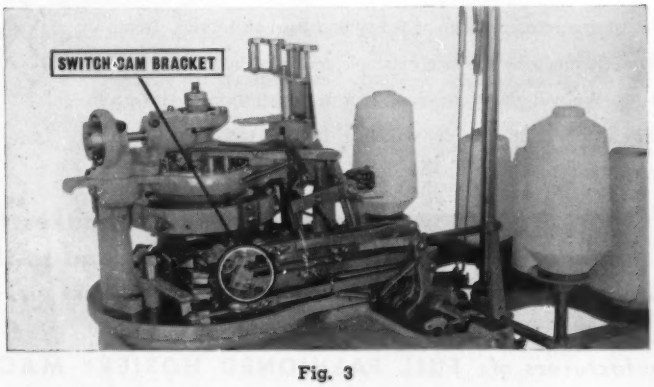
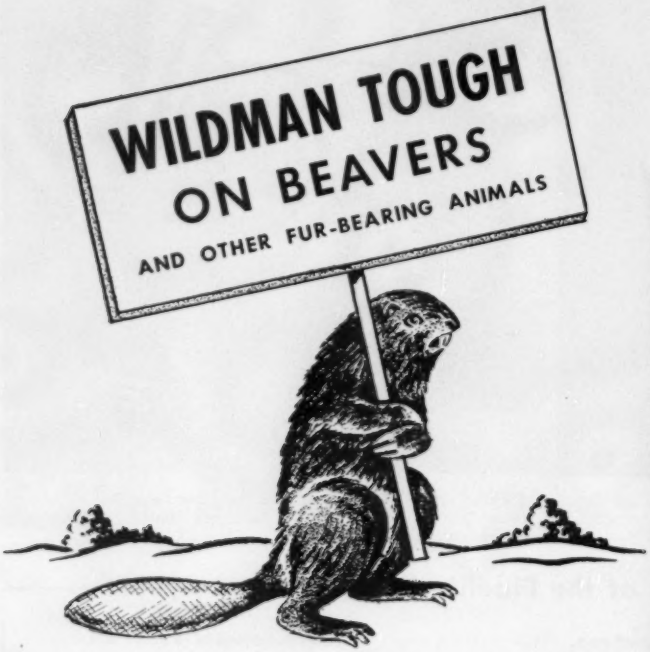
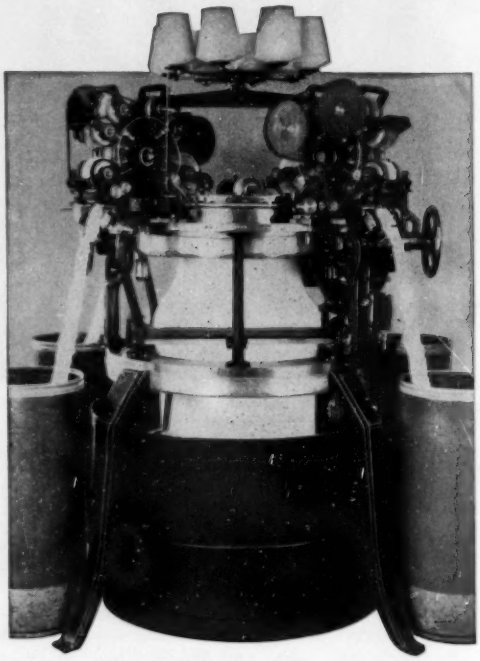



Fig. 3



This machine can't chew up trees, but it can and does produce an amazing variety of fur-like fabrics for a waiting market. By means of an unusual fiber carding attachment, raw staple is fed to knitting needles, and then locked together with regular knitting yarn formed into backing fabric of plain jersey construction.

# HIGH PILE FABRIC
## KNITTING MACHINE

### *Uses Any Type or Size of Staple*

Natural fibers as well as Orlon, Nylon, Rayon, Acrilan, Dynel or any other synthetics by themselves or in combinations with natural fibers. Staple size can range from ¾ inches and up—producing an almost unlimited number of fleecy and fur-like fabrics. Depth of pile is determined by the size of staple fed into the carding attachment . . . We will gladly arrange for a demonstration of this profit-building machine at your convenience. Inquire today for complete technical details.

**WILDMAN** *makes the machines that tend to their own knitting.*

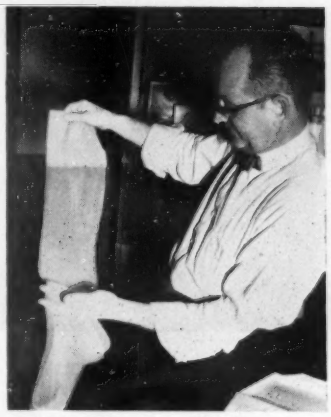
WILDMAN MFG. COMPANY, NORRISTOWN, PA.

*Manufacturers of:* FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS

should soon be reduced to ⅓.

The machine runs at 200 rpm, with the cylinder slowing down to 10 rpm at each subsequent change from make-up to transfer to heel to toe.

With needles costing about 10¢ each and machines producing an average of about one dozen pairs each per shift, the resultant total needle cost per week of about $15.00 is considered small.



**FINISHED STOCKING** held here by mill head Ralph Smith is "clear." Welt is free of distortion and will stretch to 12½ inches.

**Results: Waste and Seconds.** On the approximate average production cited, 450 dozen pairs per week, experience with waste has set this figure at about five pounds per week.

For the same production, seconds are held down to six dozen, and the mill gets about three dozen rejects.

**Getting Started.** Because the machines are individually motor driven and are plugged in to any commonly used mill circuit, start up was possible a few days after the machines arrived at the mill.

## Program for 1955 Gordon Research Conference

The 1955 Gordon Research Conference on Textiles is scheduled to be held during the period July 11-15 at Colby Junior College in New London, N. H., according to an announcement from W. George Parks, director.

Sponsored by The American Association for the Advancement of Science to stimulate research in universities, research foundations, and industrial laboratories, the conference this year will be under the leadership of J. B. Goldberg, chairman, and G. R. Seidel, vice-chairman.

Following are the scheduled lectures:

**July 11**

H. WAKEHAM—Cotton Fiber Properties in Relation to Processing and Product Quality.

C. HARMON and S. SIMON—Bleachability and the Bleaching of Off-colored Cotton.

**July 12**

J. COMPTON—The Chemical Modification of Cotton by Cyanoethylation.

E. ABRAMS—A Copper Process for Permanent Microbiological Protection of Cellulosic Fabrics.

**July 13**

R. G. SCOTT—Fiber Characterization by Electron Microscopy.

S. EDELSTEIN—Some New Aspects on Static in Textiles.

**July 14**

J. S. GILLESPIE, JR.—Progress in Man-made Protein Fibers.

H. K. HUGHES—The Influence of Molecular Structure on Cellulose Acetate Fiber Properties.

**July 15**

S. J. KENNEDY—Protection Afforded by Textiles and Clothing Against the Thermal Effects of Atomic Weapons.

Primary purpose of the program is, according to Mr. Parks, to bring experts up to date as to the latest developments, analyze the significance of these developments, and to provoke suggestions as to underlying theories and profitable methods of approach for making new progress.

Requests for attendance at the conference or for any additional information should be addressed to the conference director at Colby Junior College, New London, N. H.

## Shipper-Carrier Cooperation Could Reduce Small-Lot Shipping Costs 20 Per Cent

Less-than-truckload pickup and delivery costs could be reduced as much as 20 per cent if the "lost time" caused by delays at shipping and receiving docks were eliminated.

A study made for the trucking industry by Drake, Startzman, Sheahan and Barclay, New York, distribution and materials handling consultants, indicates that cooperation between shippers and carriers would streamline small-lot truck shipments. For shippers, including textile mills, the firm has 13 suggestions:

(1) Organize all traffic functions under one responsibility, possibly a "Director of Physical Distribution" (see TI for April, 1955, p. 111).

(2) Schedule shipping and receiving over longer periods.

(3) Use improved handling methods.

(4) Survey shipping and receiving facilities to determine that they are adequate for volume handled.

(5) Storage area layout should be designed for maximum "flow" efficiency.

(6) Segregate shipments by individual carrier.

(7) Keep package weight down to the weight one man can handle.

(8) Markings should be clear, accurate, and complete.

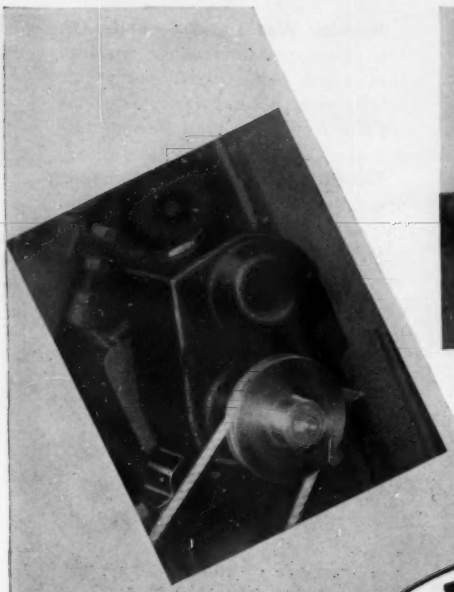
(9) Insist on legible bills of lading. Major cause of illegibility: overworked carbon paper.

(10) Inform your carrier of your requirements. Tell him how much freight you have, and when you want it picked up. Then he can schedule his trucks and improve his service.

(11) Assist truck drivers in loading and unloading larger shipments. When receiving, have a checker ready. When shipping, have bills ready. Help the driver get in and out as speedily as possible.

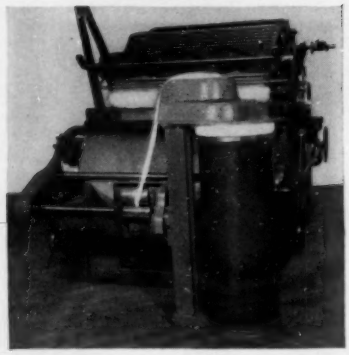
(12) Check freight carefully when it is floored in shipping department, so that driver has only to make a total-piece count.

(13) Large shippers should prepay freight charges. This reduces invoice handling by the carrier, thus saving time and costly errors.



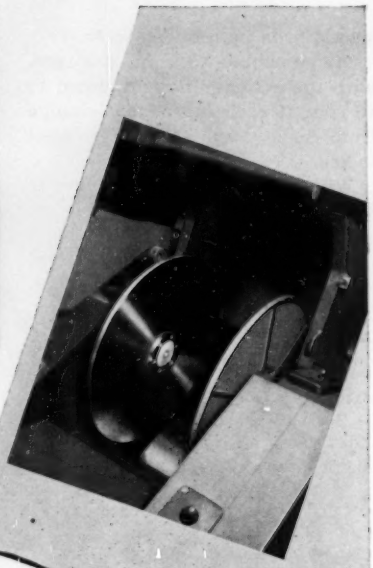
**ANTI-FRICTION COMB BOX**

- Requires only routine inspection.
- Vibration and power consumption at a minimum.
- Micrometer-type two-way adjustable foot-end stand.



**14" AND 15" COILERS**

- Lengthens the doffing cycle.
- Adds extra poundage per can.
- Increases production per man hour.



**4" PINTLE FOR LAP WINDERS**

- Full spools 2" larger in diameter for greater productive efficiency.
- Improved grease retention in bearings for better lubrication.
- For increased stud rigidity and load capacity.

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## ASSEMBLIES TO IMPROVE YOUR EQUIPMENT

**MORE EVIDENCE THAT "IT PAYS TO USE** GENUINE **SACO-LOWELL REPAIR PARTS"**

**ANTI-FRICTION COMPOUND**

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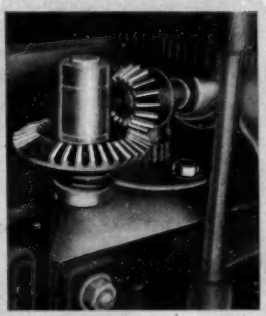

**STEEL GAP GEAR FOR ROVING FRAMES**

- Eliminates gap gear tooth breakage.
- Spring cushioned meshing of gears at change of builder motion.

**MULTI-DURO SLASHER ROLL**

- Improves evenness of size application.
- Reduces size consumption.
- Less shedding at split rods and loom.
- Minimizes end breaks in the weave room.

**SACO-LOWELL**

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

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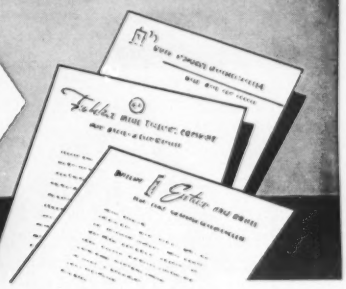
# HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •



## Having Trouble With "Stragglers" in Spinning Nylon?

EDITOR TEXTILE INDUSTRIES:

We would like to pass along some of our observations on the problem of "stragglers," or long fibers in nylon spinning. Although most of our data were obtained on American system machinery, the principles apply equally to cotton, wool, and standard worsted systems as well.

**The Problem.** In any roller drafting set-up—that is, in any system where paralleled fibers are reduced in weight per unit length in a two or more roll set with the front roll speed greater than the back—the distance between the front and back rolls is adjusted to the average staple length of the fiber being run. With natural fibers, and many synthetics, any fiber whose length exceeds the average will of course obstruct the drafting action. However, because of the rolls, the fibers will break rather than hinder drafting.

This is quite common with hair fibers such as wool; in fact an operation preliminary to drawing is often performed to break or "square off" these long fibers.

With synthetic fibers such as nylon, and perhaps Dacron, where strength is an outstanding property, such breaking in drafting does not occur.

In tow-to-top processing, if the cut nylon contains excessively long fibers as it comes from the Pacific Converter or Turbo Stapler, these fibers will continue through subsequent operations and will not be broken. Each operation in spinning will tend to form cockled and bunched yarn and hard ends where the long fibers hit the drafting zone. These defects form when the faster front roll pulling on the long fiber causes it to slip through the back roll and disturb the smooth flow of fiber through the drafting zone, or when the fiber does not slip but tightens up.

To summarize—if stragglers are not eliminated in operations preparatory to drawing, they never will be.

**Other Defects.** In addition to cockles, bunches, and hard ends caused by stragglers, other spinning defects are readily distinguishable:

1. With nylon and other hydrophobic fibers, moisture must be present to avoid build-up of static charges and the subsequent unruliness which usually results in excessive fly. All processing departments must be well humidified, and lots from beginning to end must be run as fresh as possible, avoiding storage for extended periods of time in dry areas.

2. Roll pressures must generally be higher for nylon than for other fibers. Improper pressures can cause a "sausage" effect, or thick and thin places in sliver, roving, and yarn. Sometimes it is necessary to adapt a spinning frame for extra weighting on the rolls, by equipping it with longer screws on weighting arms.

3. The ratch or distance between

### NEW KINK CONTEST!

**$100 will be awarded the winner**

**Send your entry now! This contest ends August 15, 1955**

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, August 15, 1955.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

Send your contest entry to: Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

...up of front and back drafting rolls is critical. With nylon, as with any other fiber containing crimp, setting must be based on an average length determined from the *extended* fiber, since properly weighted rolls will have the tendency to remove this crimp temporarily during drafting. Ratch should be set slightly over extended fiber length.

4. Twist is also critical with nylon, particularly in roving. If twist is too high, hard ends will result; if too low, strong nylon fibers will protrude from the strand and cling tenaciously to underlayers of roving on the bobbin. The latter condition will cause a bunch in spinning frame operation.

In all cases these other defects are readily distinguishable from defects due to stragglers by inspection of the material. If long fibers are present, they can be detected by hand stapling.

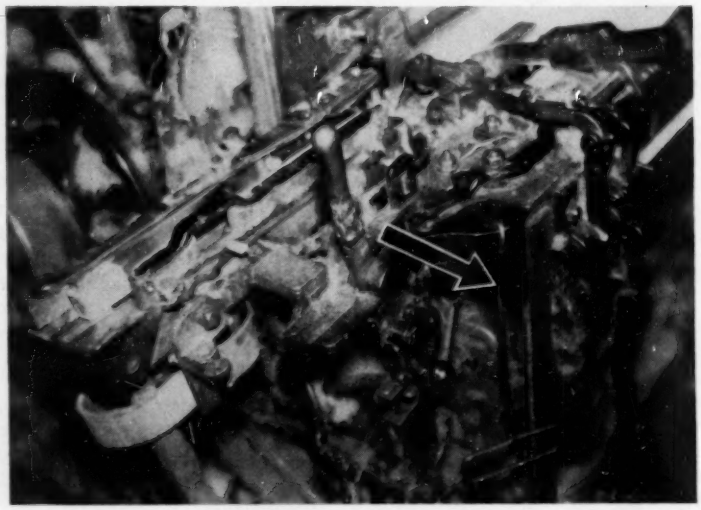
CONTRIBUTOR No. 8797

# Hook Pulls Up Pick Gear on Modified D Loom

EDITOR TEXTILE INDUSTRIES:

There is no handle or wheel to pull up the pick gear on the Modified D Model loom. These looms usually run heavy goods and have a rope-type let-off. This let-off is too heavy to pull up by hand satisfactorily, so we made hooks for warp hangers and weavers to use.

Weave room personnel frequently misplaced the hooks and spent a lot of time looking for them. Everyone put the hooks in different places on the looms or any place handy after using them. Consequently, no one could ever find the hooks when they were needed, and time and tempers were lost in the search for the hooks. One weaver placed a hook on the front of the loom. This hook fell into the gears and broke a sand roll standard.



The problem was easily solved by drilling a 5/16" hole in the loom near the pick gears. The hole was in a location where the hook could be suspended (see accompanying illustration) conveniently by the weavers and fixers. Now there is little danger of the hooks falling into any moving parts of the looms. The hook location is so handy that weavers and fixers have found it the best way to dispose of the hooks when they have finished using them.

CONTRIBUTOR No. 8691

# Reader Comments on "Move Dyehouses Outdoors?"

EDITOR TEXTILE INDUSTRIES:

In the March, 1955, issue of your interesting journal [p. 141] I notice a suggestion by CONTRIBUTOR No. 8760 that dyehouses be moved out-of-doors.

It might interest your correspondent to know that while this idea he puts forward may be new as far as the United States is concerned, it goes a long way back in Europe. This writer has seen a few examples of this way of handling textiles, one of which is mentioned in the enclosed item. [A clipping was enclosed, describing the manufacture of Harris tweed, raw stock dyeing for which is done outdoors.]

In another place I saw a kier for boiling off cotton piece goods on the outside of an old cotton mill out in the woods near the city of Leeds. It was heated by a fire underneath the kier, which was stoked by going down a few steps. When the goods had been loaded

# CARDING IS THE FOUNDATION FOR QUALITY

NO. 18

## Tips on the Life of Woolen and Worsted Card Clothing

***How long should woolen and worsted card clothing last?***

The above question is often asked; however, there is no hard and fast rule as to how long card clothing will run and produce satisfactory roving, for there are various conditions in each individual mill that are determining factors as to the life of the card clothing.

***Proper card clothing care.***

The life of any product is dependent on the care given it by its user. We have discussed before the necessity of an effective maintenance program for the running of an efficient card room and producing quality roving. The life of the card clothing is also dependent on an effective maintenance program.

1. Card clothing should be stored in a dry room to prevent rusting and allowed to reach card room temperature before applying to rolls.
2. The clothing machine should be kept in the best possible condition and calibration checked to ensure correct tension when clothing is put on; otherwise the fillet may break during application, or be put on too loosely and break after it is on the roll. This can cause damage to the other wire on the card.
3. Improper grinding, i.e., poorly maintained grinding equipment and poorly instructed grinders, can result in hooked wires and shelling out due to too heavy a grind, shortening the life of the clothing.
4. Improper stripping, i.e., failure to clean the rolls thoroughly, will cause the stock to pack into the wire and eventually pull the wire back with a loss in pitch.
5. Improper settings can result in facing of the card wire, which means a loss in pitch and high wires, making a true setting impossible.
6. Failure to maintain the card in good mechanical condition, i.e., worn bearings, etc., is often the cause of premature failure of card clothing.

***Type of stock being processed.***

The many different blends and styles of today call for card clothing specifications that are flexible, i.e., suitable to card satisfactorily both the lowest grade blends or stocks along with the higher quality blends, and still give the individual mill the desired results with minimum card clothing costs.

***Preparation of the stock.***

Further advancement in the preparation of the stock before it is presented to the card has helped a great deal in lengthening the life of the card clothing. Proper opening, blending and application of emulsion mean longer card clothing life.

***The card clothing trend today.***

Since woolen and worsted card clothing must be flexible to card satisfactorily all the blends the mill is processing, there is a greater concentration on the breaker section (metallic breast included) of the card today than ever before. The reasons for this are as follows:

1. A metallic breast in good condition will prepare the stock better before it reaches the flexible card clothing on the breaker card, thus increasing the life of the card clothing.
2. The "Peralta" eliminates burrs, trash, etc., before the stock reaches the second breaker and finisher cards, reducing the chances of the stock damaging the card clothing on these sections.
3. Since the breaker card gets the most abuse, proper card clothing specifications on the breaker section can mean a saving to the mill by longer card clothing life.

   (a.) The trend is toward a coarser wire in conjunction with a heavier foundation on the breaker card, to compensate for the abuse this section receives due to the fact that card clothing today must be flexible enough to handle all blends satisfactorily.

***Conclusion.***

The type of stock, its preparation before the carding operation, and the care given to the card clothing are the determining factors as to how long woolen and worsted card clothing will run and produce satisfactory roving.

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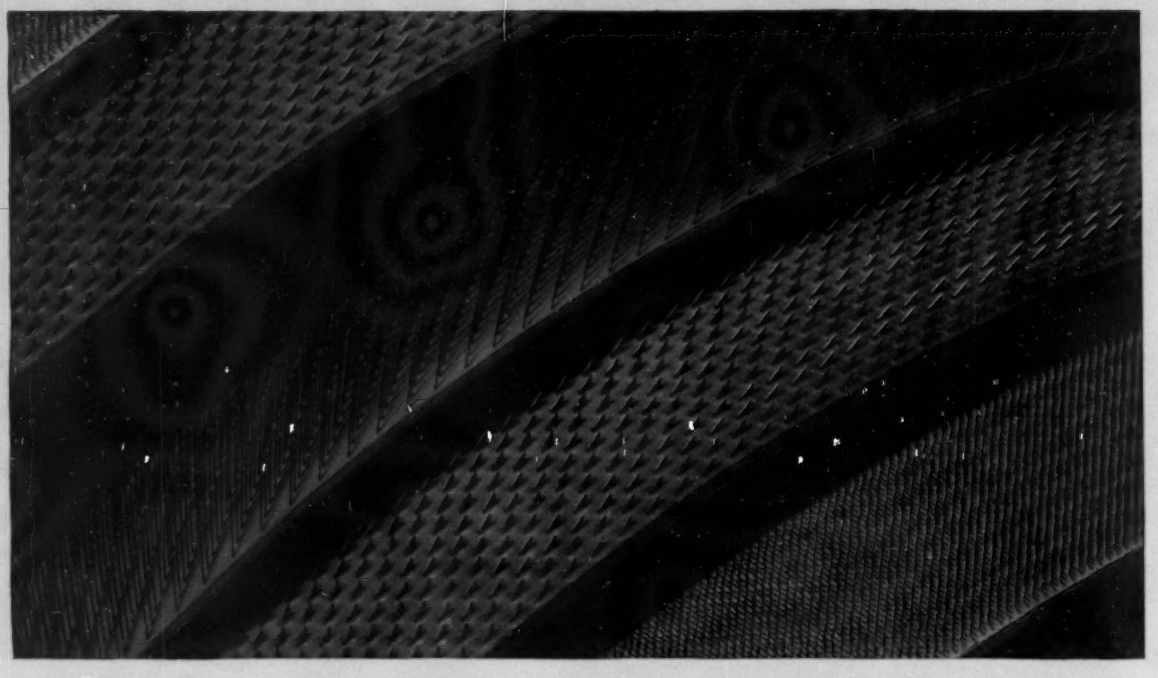
*please turn the page* ▸

# *Ashworth*

# CARD CLOTHING



## *For Wool, Worsted, Asbestos, Silk, Jute, Synthetics and Blends*

If your breasts, lickerins, dividers, tumblers, cylinders, workers, strippers, fancies, doffers, or dickies need to be reclothed with flexible or metallic wire, we can supply your requirements.

We will also be glad to recommend, on request, the right foundation, or the right wire for the job. With four generations of experience behind the practical card men on our staff, we are well equipped to do this.

With 3 factories, 6 repair shops and 7 distributing points we can serve you efficiently and promptly. Contact our nearest office for information.

**ASHWORTH BROS., INC.**

American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Charlotte†‡
Greenville*†‡ Atlanta†‡ Dallas (Textile Supply Co.)†‡
Los Angeles 62, Calif. (E. G. Paules, Representative)
*Factory †Repair Shop ‡Distributing Point

PRODUCED BY AMERICAN WORKERS

**3 FACTORIES 6 REPAIR SHOPS 7 DISTRIBUTING POINTS**

in the kier, a heavy cloth was stretched over the load and rocks piled on it. There was a vomit-pipe in the middle of the kier; the hot lye, heated by the fire, ascended and was sprayed over the rocks and the goods, being deflected by a sort of iron umbrella over the top of the pipe.

I went to school with a boy whose father had a woolen mill in Meanwood, a suburb of Leeds. The dyehouse, or rather the dye kettles, was out in the yard behind the mill, being covered only with an open shed over the dye tubs, which also covered the man working at the tubs.

Neither of these installations had any steam elimination problems, but they were none too comfortable for the operatives, as will be attested by anyone who has visited that part of the world. When I was on the staff of Leeds University, I heard one of the professors state that "Climatologically speaking, the British Isles are unfit for human habitation."

P. J. Wood
*Technical Director*
*Royce Chemical Co.*

HOW OTHER MEN MANAGE

# Simple Change to Knitting Machine Clutch Stops "Dragging In"

Editor Textile Industries:

The clutch key A and right hand clutch pinion B shown in the accompanying sketch (Fig. 1) are standard equipment on many Scott & Williams knitting machines, including models B-3, B-5, HH, and K. These pinions are now hardened to help withstand the pressure of shifting and driving, but the old-style cold rolled steel pinions could not take this sort of treatment for very long.

Excessive wear of these pinions is very common if the clutch shift timing is a little late, which is the cause of clutch keys "dragging in" instead of shifting freely.

Fig. 2 shows a slight alteration

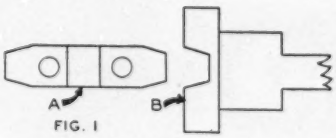


FIG. 1

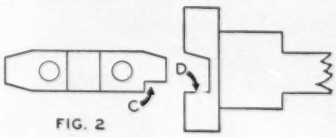


FIG. 2

we have made to the clutch key at C and the pinion at D; both surfaces have been squared off. The recess on the pinion can be ground with a small-diameter wheel mounted on a hand grinder without removing the pinion from the machine. The clutch key can of course be ground on an ordinary grinding wheel. The whole job requires about 30 minutes.

This minor change eliminates worn pinions, either new or old style, and prevents unnecessary wear on the clutch fork assembly. It also removes the tendency of this type of clutch to put pressure against the clutch fork roller and shipper cams through the greater part of each cycle of the clutch shifting drum.

This change requires that the machine fixer keep clutches properly timed; clutches either shift freely or they jam—there is no halfway point or "dragging in."

Contributor No. 8766

# Welding Rod Makes a Handy Apron Roll Gauge for Wool Cards

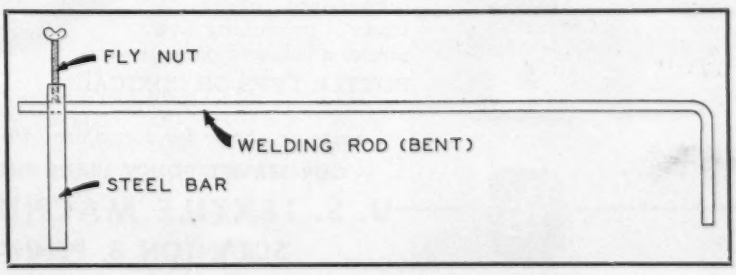
Editor Textile Industries:

A ¼-inch welding rod 20 inches long, with a right angle bend 3 inches from one end, fitted with a movable steel bar, is in use at our mill to set apron rolls evenly on both sides of tape condensers after installation of aprons.

The steel bar is adjusted along the 17-inch length of welding rod to mark a setting; the bar is ⅜ x ⅜ inches and 4 inches long, drilled with a ¼-inch hole to accommodate the rod and also screw-drilled from the top to accommodate a ¼-inch thread fly-nut that is 1½ inches long. The bar is cold rolled steel.

Sliding or drifting aprons caused by uneven apron roll settings are eliminated with the proper use of this gauge.

Contributor No. 8765



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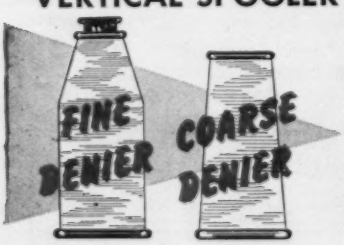


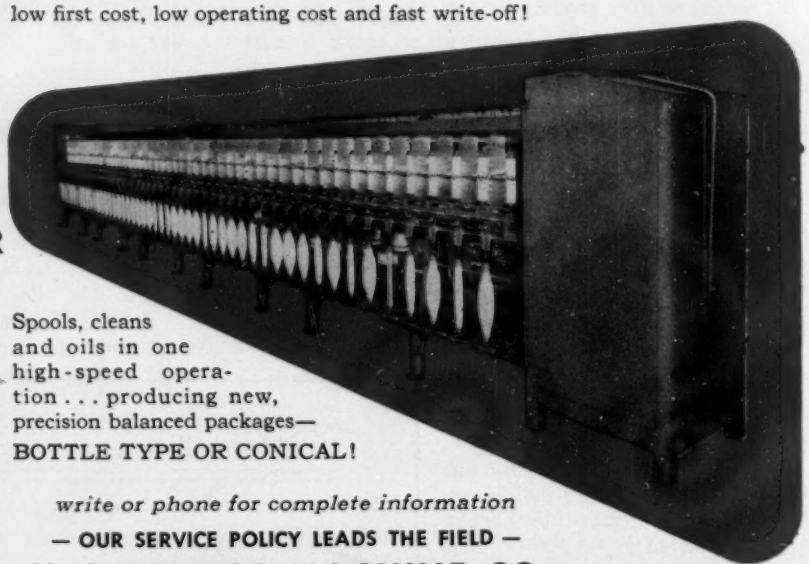

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# New Technique Gives Actual Towel Absorbency

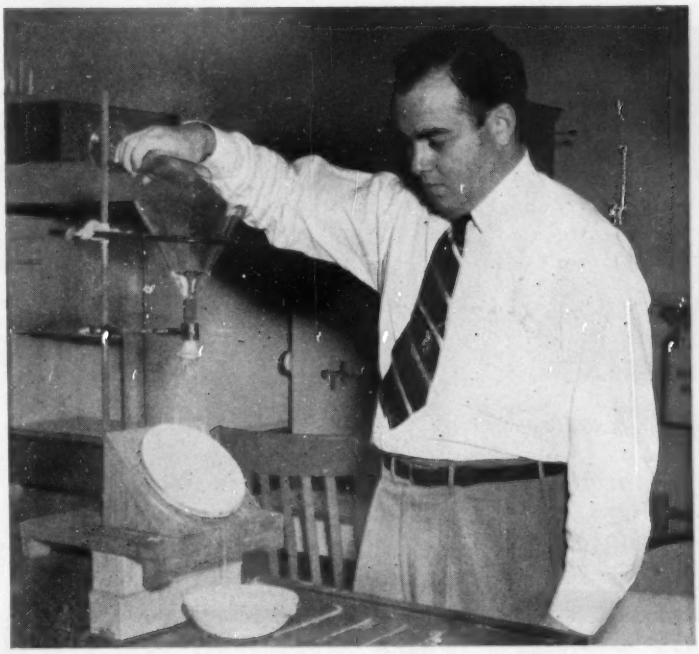
EDITOR TEXTILE INDUSTRIES:

Reproduced at the right is a photo of the writer making a standard spray test (Federal Specification CCC-T-191b, Method 5526). On closer examination you will note one small modification—a crucible (or watch glass) is catching the *excess* water. In **photo No. 2,** this excess is being remeasured into a graduate. Since 100 cc was originally used, the difference between this new figure and 100 represents the per cent water absorbed by the towel sample. The test has been coined the "Negative Spray absorbency Test."

This simple procedure was the result of several weeks of research and investigation of absorbency testing as applied to towels. During this time, several different methods were employed. The object was to correlate "use" ratings with actual test results.

Several absorbency tests are accepted as standards or have appeared in the literature. One of these is the measure of "sinking time" of a standard size specimen. Another measures the weight of water absorbed after the specimen has been immersed and "wrung out" under specific conditions (A.A.T.C.C. Tentative Test Method 21-52). Still another consists of dropping individual drops of water onto the specimen and measuring the time required for the liquid to "lose its specular reflective power" (A.A.T.C.C. Tentative Test Method 39-52).

A further method, the Weireck method, commonly used by the writer's laboratory and illustrated in **photo No. 3,** consists of measuring the distance which water is wicked-up along one inch strips of the specimen when one inch is below the water surface. Measurements are normally made one minute and five minutes after initial immersion (A.S.A. Proposed Method 22.4.2). (Most of these procedures are also listed under A.S.T.M. Designation D 583-54.)



However, in each of the above tests, either the *rate* of picking up water (usually by capillarity) or the total *ability* to hold water is being measured. Neither of these properties alone is correlated with what actually happens when wet skin is dried with a towel.

One test which somewhat takes into account these properties is the Larose test for absorbency, which measures the rate of flow of water through a porous plate into the test specimen. Either the time required to absorb a specific amount of water or the amount of water absorbed in a specific time can be measured. The author's experience with this technique is that the results are not too reproducible from day to day, as the equipment is rather sensitive to change and the results are affected by the porosity of the plate. The over-all test is also far from rapid. As far as the writer has been able to determine, this method has not yet been accepted as standard by any of the societies.

To obtain the actual "use" ratings, different towel samples were ranked from "best" to "worst" by four different individuals who washed their hands and dried them blindfolded. Six different specimens were used (representing

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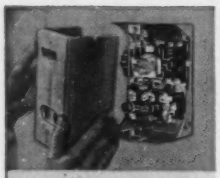

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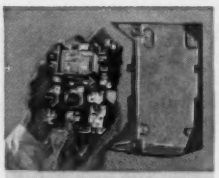

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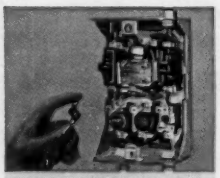

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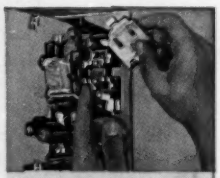

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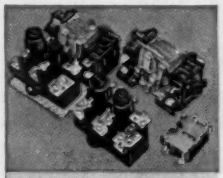

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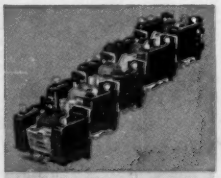

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New standard duty pushbutton station with pilot light offers many exclusive features, typical of complete C-H line. Watch soon for announcement of the revolutionary new line of C-H heavy-duty oil-tight one-hole mounting pushbuttons.

**COMPARISON OF WICK-UP AND NEGATIVE SPRAY METHODS**

| | Towel "A" | | Towel "B" | |
|---|---|---|---|---|
| | 1 Min. | 5 Min. | 1 Min. | 5 Min. |
| Wick-Up Method (16th in. wicked up) | | | | |
| Before washing | | | | |
| Warp | 22 | 40 | 24 | 44 |
| Filling | 22 | 36 | 22 | 36 |
| After washing | | | | |
| Warp | 29 | 48 | 28 | 48 |
| Filling | 26 | 48 | 26 | 48 |
| Negative Spray Method (% water absorbed) | | | | |
| Before washing | 40 | | 31 | |
| After washing | 52 | | 35 | |

cheap and expensive, light and heavy, absorbent and non-absorbent towels) and the order of using these was randomized. They were all fluff dried and conditioned between each test.

Yet, none of the "currently accepted" absorbency tests gave any real rank correlation with the individual opinion ratings. Then the spray technique described in the first paragraph was tried. This time the test results gave highly significant rank correlation coefficients with three of the four "use" ratings. (Even the fourth was significant at a lower probability level.)

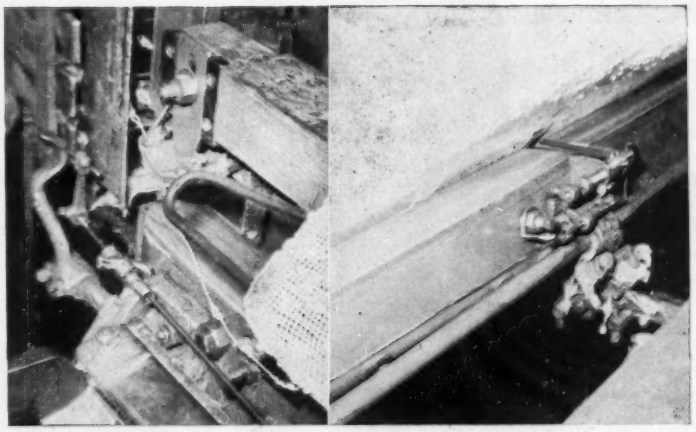
Several further comparisons were made between this spray procedure and the other techniques. The table shows a comparison of two towels by both the "Wick-Up Test" and the "Negative Spray Absorbency Test." Note that although the former method shows both towels to be almost equal, the negative spray technique shows towel "A" to be much superior to towel "B" for over-all absorbency and also shows a greater difference between the washed and unwashed absorbencies in the case of towel "A". In this case towel "A" was the heavier; its *rate* of absorbency was equal to that of the lighter towel "B," while its ability to *hold* water was apparently greater.

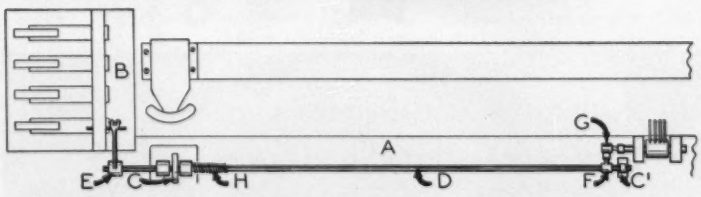
This technique is now being used for quality control and evaluation of all towels by Wamsutta. Surprisingly enough, the "per cent water absorbed" is only slightly affected in ribbed towels by the direction of the ribs. If a much larger volume of water than 100 cc were used or if the specimen had a repellent surface, this factor would probably become important, but according to the procedure described above, the negative spray absorbency test gives very good reproducibility and correlation with actual usage.

EDWARD S. RUDNICK
*Formerly Director of Research*
*Wamsutta Mills*

HOW OTHER MEN MANAGE

# How to Modify Box Looms to Weave Fillingwise Open Spaces






EDITOR TEXTILE INDUSTRIES:

Here is a method we use for making fillingwise open spaces in a fabric; it is useful in tablecloth fringes, table runners, etc., and in textured weaves where an open place is desired. The method is applicable only to box looms; we have applied it to C & K C-4 4 x 1 automatic dobbies.

Referring to the accompanying sketch and photographs, the binder of box No. 4 is first extended by welding a piece of rod to it, and the slide for the magazine is removed. When empty box No. 4 is brought up, this rod contacts and raises a finger E mounted on a shaft D connected to the center filling stop motion.

The shaft is mounted in bearings C and C′ fastened to the lay beam A.

At the stop motion end of the shaft is a stop F, and a similar stop

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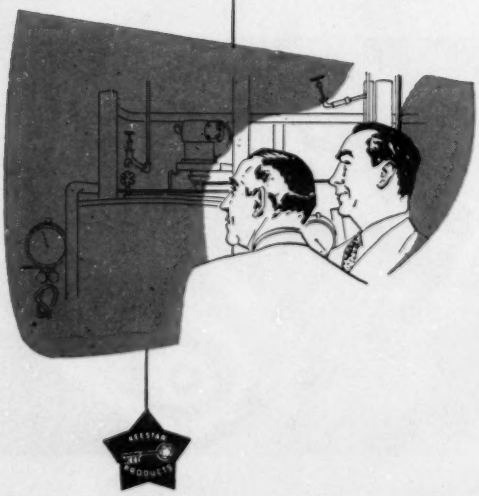

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G is on the center filling stop motion. When finger E is raised, the shaft rotates, bringing stops F and G into line, putting the center stop motion out of operation, holding the fork level with the lay and above the well, and permitting the loom to continue operation even though no shuttle is going through.

When box No. 4 goes back down, the stop on the center filling stop motion goes out of action, and the stop motion resumes functioning.

Spring H holds rod D in the closed position when the device is not in operation, and returns it to the closed position after box No. 4 has been raised and is again lowered.

CONTRIBUTOR NO. 8792

HOW OTHER MEN MANAGE

# Easy Way to Make Additions in High Pressure Dyeing

*This item was submitted in a Kink Contest.*

EDITOR TEXTILE INDUSTRIES:

Here is a device which we have found useful for a variety of purposes in the processing of the newer synthetic fibers and fabrics—at a considerable saving over custom-built equipment. The device is a regular steam engine lubricator, made for example by the Lunkenheimer Company, and which comes in several sizes.

We use the device where it is necessary to introduce solutions of dyes, chemicals, etc., during the running of processing machinery, and where it is desirable not to reduce operating pressure or otherwise make special adjustments or interruptions of the process.

It is adaptable in making additions to high pressure dyeing machines in dyeing Orlon, Dacron, Acrilan, etc. In print aging it may be used to make additions of chemicals such as acetic and formic acids to the steamer atmosphere under either normal or elevated pressure. It may also be fitted to an autoclave for the making of steam-set elastic and crimp yarns and fabrics.

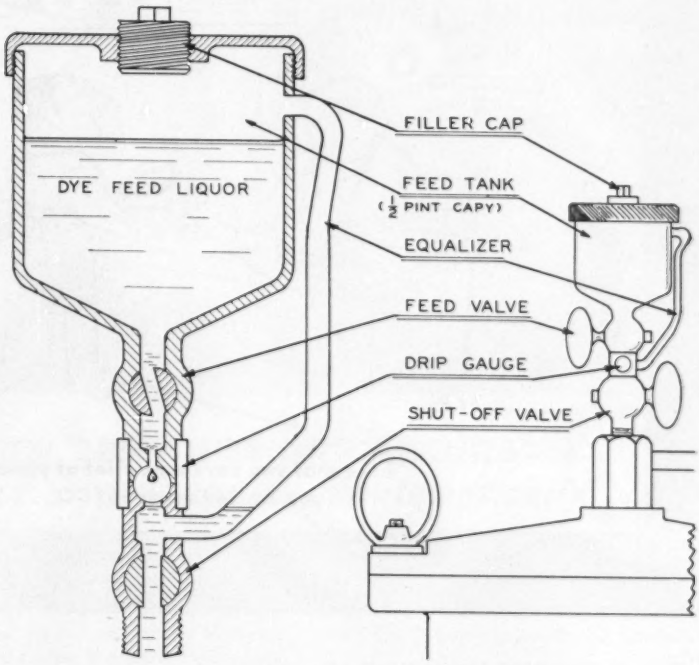
The accompanying detailed illustration shows the construction of the device. A tank of varying capacity (for example, half-pint size for a laboratory machine) is connected to the pressure vessel by means of two valves with a "drip sight" gauge between them. The bottom of the drip sight gauge chamber is connected to the top of the tank by a pressure equalizing pipe. The tank is closed tightly with a screw plug on the top.

To operate, both valves are first shut, the plug or filler cap is opened, and the desired liquid added. The cap is then screwed tight and the lower valve opened. This connects the machine to the top of the feed tank at equal pressure.

Next, the upper or feed valve is opened to the desired degree by observing the dripping of the liquid into the machine past the sight glass located between the two valves on the device. The feed tank will empty completely.

Cleaning is done simply by allowing steam to blow through with the filler cap open.

The accompanying illustration shows the half-pint size attached to a Gaston County lab-size package dyeing machine.




CONTRIBUTOR NO. 8780

**Winner of TI's Kink Contest Ending April 15 Was Stephen E. Ziak of Massachusetts.**

**See Page 189 for Announcement of New Contest**

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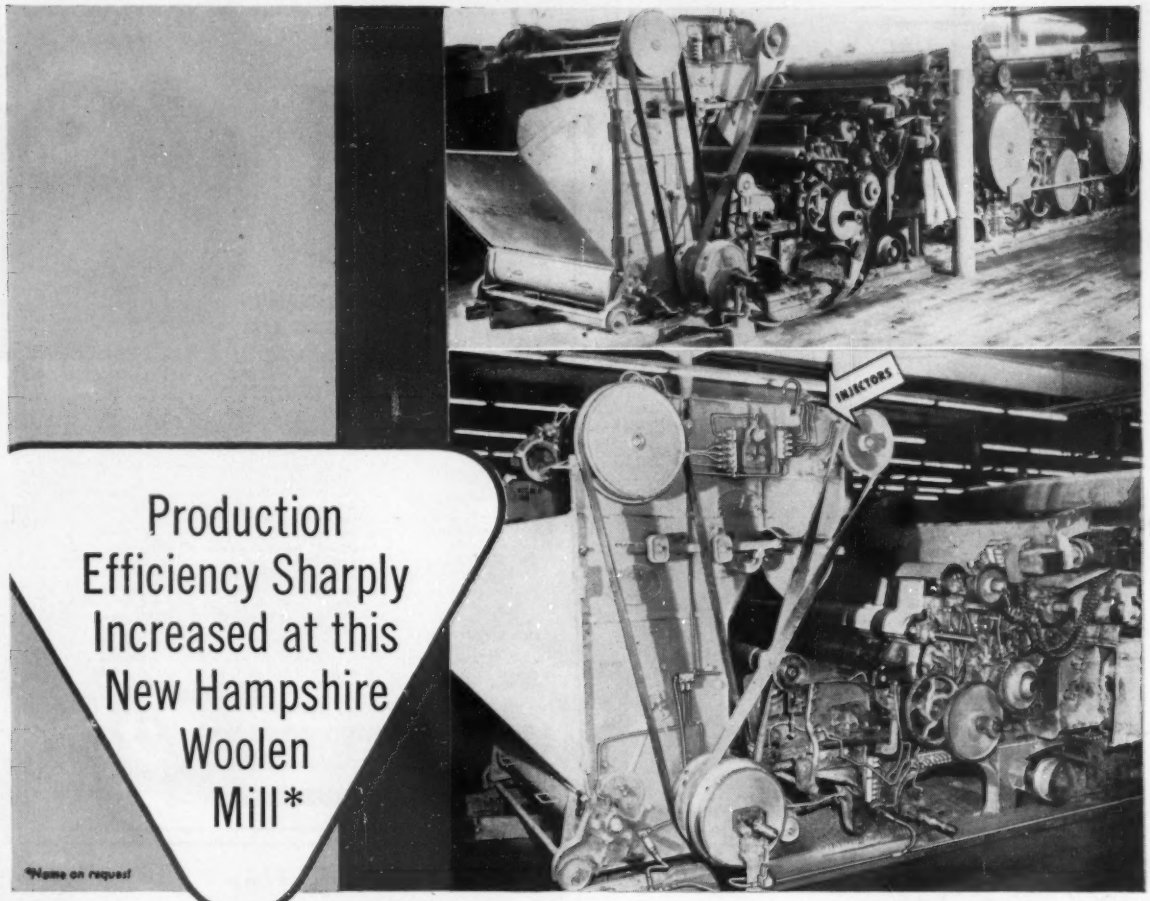


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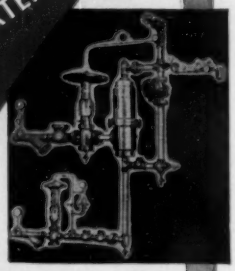

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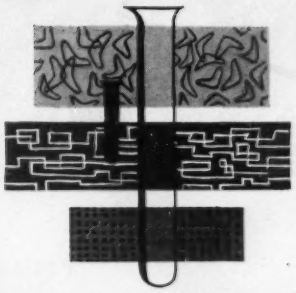

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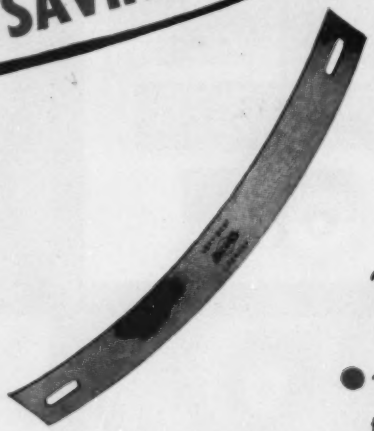
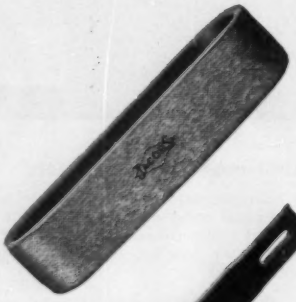
OK BRAND

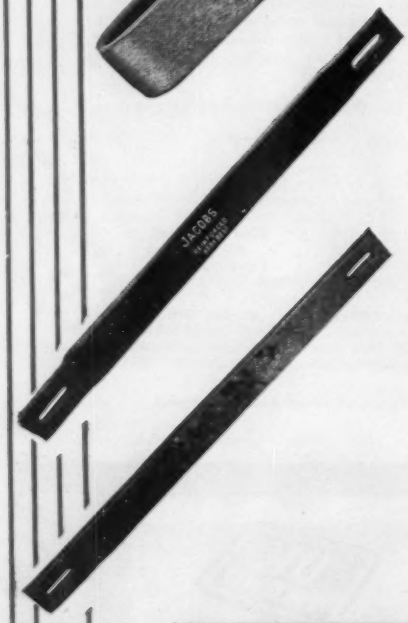
**THE HUBINGER COMPANY**
KEOKUK, IOWA
ESTABLISHED IN 1881

FOR PRODUCTION SAVINGS—

# Meet the COMPLETE Line of JACOBS "Verybest" Check Straps!







- *"Verybest"* CRESCENT—*Curved*, cut and shaped to conform exactly to the angle of the picker stick.
- *"Verybest"* ENDLESS—*Circular*, in the new oval shape. Glued and nylon-stitched for durability.

---

- *"Verybest"* REINFORCED—*Expanded*, with 12½% more wearing surface. Permits more gradual checking, cuts loom shock, saves power. Conforms to the angle of the picker stick.
- *"Verybest"* CONVENTIONAL—*Straight*, cut to your own specifications. Uniform in width, thickness, and performance.

ALL "Verybest" Check Straps are made from carefully selected domestic and imported hides, expertly graded, constantly re-checked in process, painstakingly calipered, and rigidly inspected. Made and stocked at:

THE BULLARD CLARK COMPANY

JACOBS

**SOUTHERN DIVISION** Charlotte, N. C.

**NORTHERN DIVISION** Danielson, Conn.

# NEW Equipment AND MATERIALS

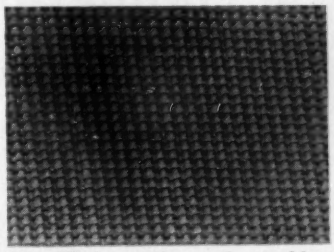
## Machine Makes More Uniform Seamless Hosiery and Is Double Feed Equipped

Smoother, more uniform, and more "skinlike" appearance are characteristics of ladies' seamless stockings produced on the new "Hemph-Lon" Kleer Stitch knitting machine which is designated Model HL, the machine manufacturer reports. Including a combination of the Hemphill "patented new system of knitting" as an integral unit plus the "Drawflex" fabric tension control, the machine is said to be capable of producing the highest quality 10-minute stocking.

Regular double feed patterns, fancy mesh patterns, bare heel, demi toe, inturned welt, picot top, trimmed high splice, and double sole constructions can be made on this machine. The looping is done on the bottom of the foot.

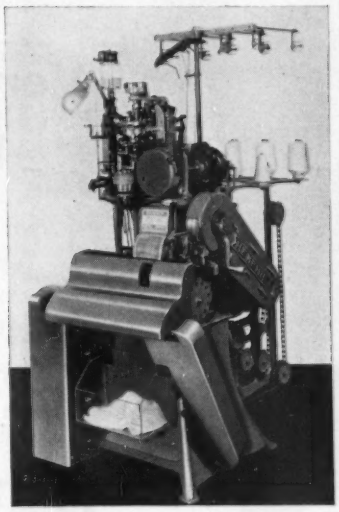
Other engineering features are:

1. Double feed equipped;
2. Replaceable, dual section cylinder wall inserts;
3. Silent, durable ball-bearing cylinder ring gears;



**Magnified portion of stocking made on the "Hemp-Lon" (right), showing evenness of stitches.**

4. Steel stitch ring supports needles at vital stitch forming area;
5. Positive, yet adjustable, relationship between sinkers and needles;
6. Self-aligning ball-bearing connecting rod;
7. Independent clutching;
8. Seven yarn levers;
9. Multi-step pattern jacks;
10. Only two different needle butt lengths;
11. Large capacity, positive control, automatic lubrication system;
12. "Slip-grip" control handle for infinitesimal adjustments;
13. Self-adjusting yarn tension equalizer.



*Hemphill Co., Pawtucket, R. I.*

**More data? Write ◂ or use card, p 227; list F-101**

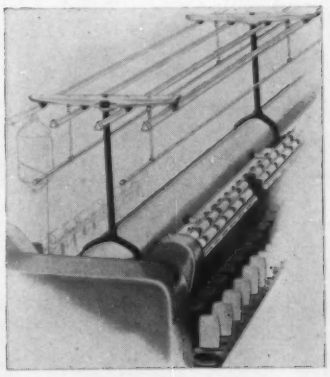
## Spinning Frame Creel Built on Air Foil Principle; Easier to Keep Clean

Pneumafil Type LFC features the all new built-in Lint Free Creel and combines the advantages of the Pneumafil vacuum scavenger system with an air foil designed "lint-free" creel.

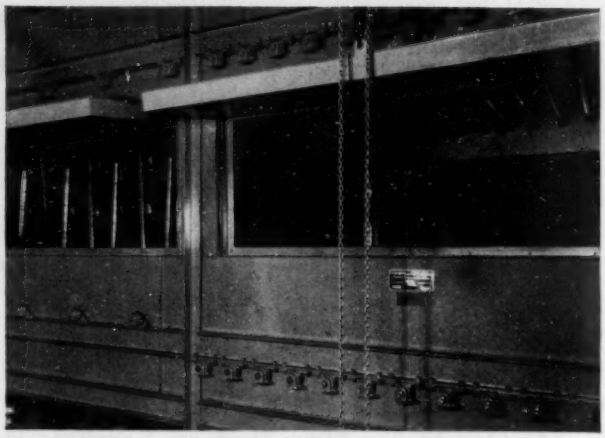
Constructed entirely of smooth-finished, aerocurved aluminum and steel, the new creel eliminates slubs caused by creel lint accumulation, reduces hand cleaning, and is completely flexible in application.

The air foil principle of design allows overhead cleaner air, unobstructed by any flat boards, to pass around every creel part and so clean all surfaces with the minimum of resistance. A specially designed Pneumafil header duct directs the overhead cleaner air stream by the drafting system and through open new-type weight wire supports. Mirror-smooth, parallel spans enclose the bobbin holder bolts and allow the bobbin tapers to be constantly cleaned. There is no wiping of creel or green boards to be done; no picking of bobbin tapers nor wiping of header ducts.

The Lint Free Creel may be easily moved from a frame of one gauge to a frame of another gauge, may be



A & G Curing Unit equipped with specially-designed Fafnir Ball Bearing Pillow Blocks for lightweight stainless steel rolls.



# Versatile Curing Unit Rolls Up Production Records on FAFNIRS

Partners in Progress
(over 16 years)
ANDREWS and GOODRICH Inc.
...FAFNIR

Dependably-uniform warp tension, adaptable to the particular goods being processed, is an important reason why *Andrews and Goodrich* Curing Units have been able to establish production records. To insure this feature, A & G design engineers worked out bearing requirements with Fafnir specialists.

All A & G Curing Units are equipped with specially-designed Fafnir Ball Bearing Pillow Blocks. These pillow blocks are furnished in pairs, one fixed to locate the shaft and one floating to compensate for thermal expansion. By virtue of their specially-designed end covers which can be rotated for proper positioning of oil level cups plus special locations for oil filler cups, these unique pillow blocks are mounted with bases vertical, inverted and horizontal at various locations on the machines. Special high temperature seals prevent oil seepage along the shafts.

Over the past ten years, hundreds of these bearings have been used on *Andrews and Goodrich* Curing Units. They've met every expectation for smooth, trouble-free operation at low maintenance cost . . . *no bearing troubles on record* . . . another example of supplying the right bearing to fit the need. Perhaps Fafnir Bearing Specialists can help you improve your equipment by supplying the precise bearing for the need. Write The Fafnir Bearing Company, New Britain, Conn.

**FAFNIR SAL TYPE PILLOW BLOCK** . . . usually supplied in pairs with one bearing fixed, the other free to float. Features wide inner ring ball bearing with self-locking collar . . . easiest of all to install.

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

easily changed from single to double roving or vice versa, and may be easily changed from small to large packages. The equipment is available for any spinning frame need, whether single or double roving using large or small packages.

Type "T" Lint Free Creel is also available for frames already equipped with Pneumafil.

*Pneumafil Corp., 2516 Wilkinson Blvd., Charlotte, N. C.*

**More data? Write ◂ or use card, p 227; list F-102**

## Tufted Textiles Can Be Produced in Wide Range of Patterns With New Device

A new loop pattern tufting machine attachment makes possible a wide variety of high and low loop effects, including sculptures, florals, scrolls, borders, monograms, etc. The new attachment, made in widths up to 216 inches, can be applied to any make of tufting machine.

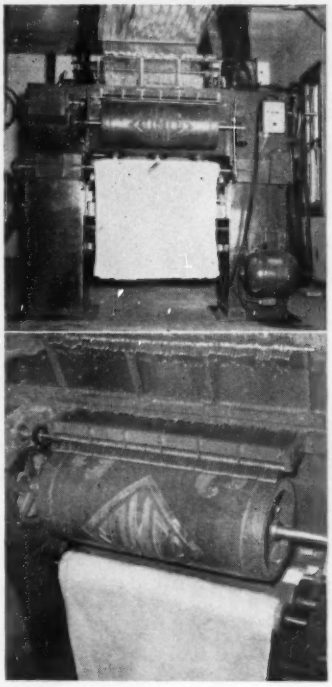
The principal parts of the attachment are a pattern drum with the design cut in linoleum, yarn locks, and yarn delivery guides.

The basic principle of the device is to feed a measured amount of yarn to each needle. If the amount fed is not enough to make a long loop, the needle will pull enough yarn from the previous loop to make up the difference, thus causing the previous loop to be short. The amount of yarn fed to each needle is predetermined by the design cut on the pattern drum, thus making possible intricate combinations of high and low loops.

The linoleum design on the pattern drum is easily removable so that a different design may be substituted.

*Southern Machine Co., Inc., 1701 Rossville Ave., Chattanooga 8, Tenn.*

**More data? Write ◂ or use card, p 227; list F-103**



## Laminated Plastics Improve Tenter Frame Operation

Laminated plastic bearing surfaces for tenter frame clips to ride on provide benefits of improved operation, lower power consumption, reduced downtime, and lower maintenance costs.

The rail lips and hold-down strips are made of Grade A asbestos-base Phenolite, a laminated plastic.

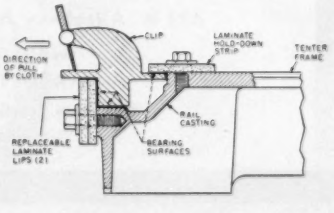
The coefficient of friction of these replaceable parts is lower than that of the conventional rail surface. As a result, power consumption is noticeably lower. The reduced friction also results in longer operating life.

The plastic rails on the tentering machines simplify the resurfacing job. Because they are replaceable, the job can be done in the user's own plant by its maintenance crew with no delay for shipment and practically no downtime. And because they are reversible, the strips can be used several times before being discarded.

The Phenolite strips are made from ⅜-in. stock, 2¾ in. wide, and cut into 5-ft lengths. To allow for expansion in the heated chamber, a gap is left between strips at each rail joint and the mounting holes are drilled 1/32-in. oversize.

Another advantage of the strips is the protection they provide to the machine in the event that lubrication is neglected—the replaceable plastic strips rather than the clip surfaces become worn if an operator should fail to lubricate the equipment.

**How the Phenolite strips are installed on the tenter rail.**




In a similar application, a paper-base Phenolite laminate is used for the rail lips of a mercerizing machine. In this case, the paper-base laminate is satisfactory, because the cloth is mercerized with a caustic spray at room temperatures and heat resistance is not a factor in the choice of a laminate.

The manufacturer is prepared to make the Phenolite rails for existing tenters as well as for new machines.

*National Vulcanized Fibre Co., Maryland Ave. and Beech St., Wilmington, Del.*

**More data? Write ◂ or use card, p 227; list F-104**

## Many Applications Visualized for 15/3 Nylon Yarn

Chemstrand nylon yarn in 15/3 denier is available now.

Especially important to the women's hosiery industry, the new yarn will add extra strength and wearability to nylon hosiery. Properly thrown, it will make hosiery more snag resistant and shape retaining.

By the use of twist, the 15/3 denier nylon yarn can achieve a dulling effect without the necessity of using dull yarns. It is expected the yarn will be used in both full-fashioned and seamless standard type nylon hosiery as well as in stretch type.

The yarn will also find a place in the tricot field where interesting new effects in hand and appearance can be obtained. In woven fabrics the yarn can be used to create unusual new novelty weaves.

*The Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.*

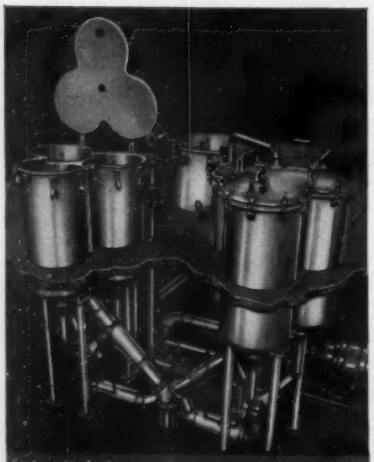
**More data? Write ◂ or use card, p 227; list F-105**

## Duplex Splash Attachment for Novelty Twisters

Novelty yarns containing splash segments of alternating colors can be produced on twisters equipped with the new Whitin Duplex Splash Attachment which is a novel arrangement of gearing and clutches that permits increase or decrease of the speed of rotation of both the upper and lower lines of delivery rolls independently.

Applied to the foot end of the twister, the simple attachment is

# ...that's when this absolutely LEVEL DYEING "pays off"!



An exclusive method of cushioning the shock of flow reversal... plus our own pump design to obtain high flow at moderate pressure... reduce danger of "blown" beams.

Quality in denim, chambray, gingham and similar fabrics, depends greatly upon *uniform color*. This can be achieved only with *yarn* of uniform color . . . yarn without the slightest variation in shade. The Smith-Drum Beam and Package Dyeing Machine is designed to *insure absolutely level dyeing* of a complete set of beams or packages.

Level dyeing is possible *only* when all beams or packages in the same lot are dyed simultaneously in the *same bath!* This Smith-Drum Machine dyes from 2 to 6 beams or yarn carriers under identical conditions of liquor ratio, flow, pressure and temperature . . . with uniform distribution of additions to the dye bath.

If you are interested in truly uniform dyeing results, economy in operation and saving in floor space, it will pay you to discuss this machine with one of our representatives.

## SMITH, DRUM & COMPANY

**432 W. Allegheny Avenue, Philadelphia 33, Pa.**

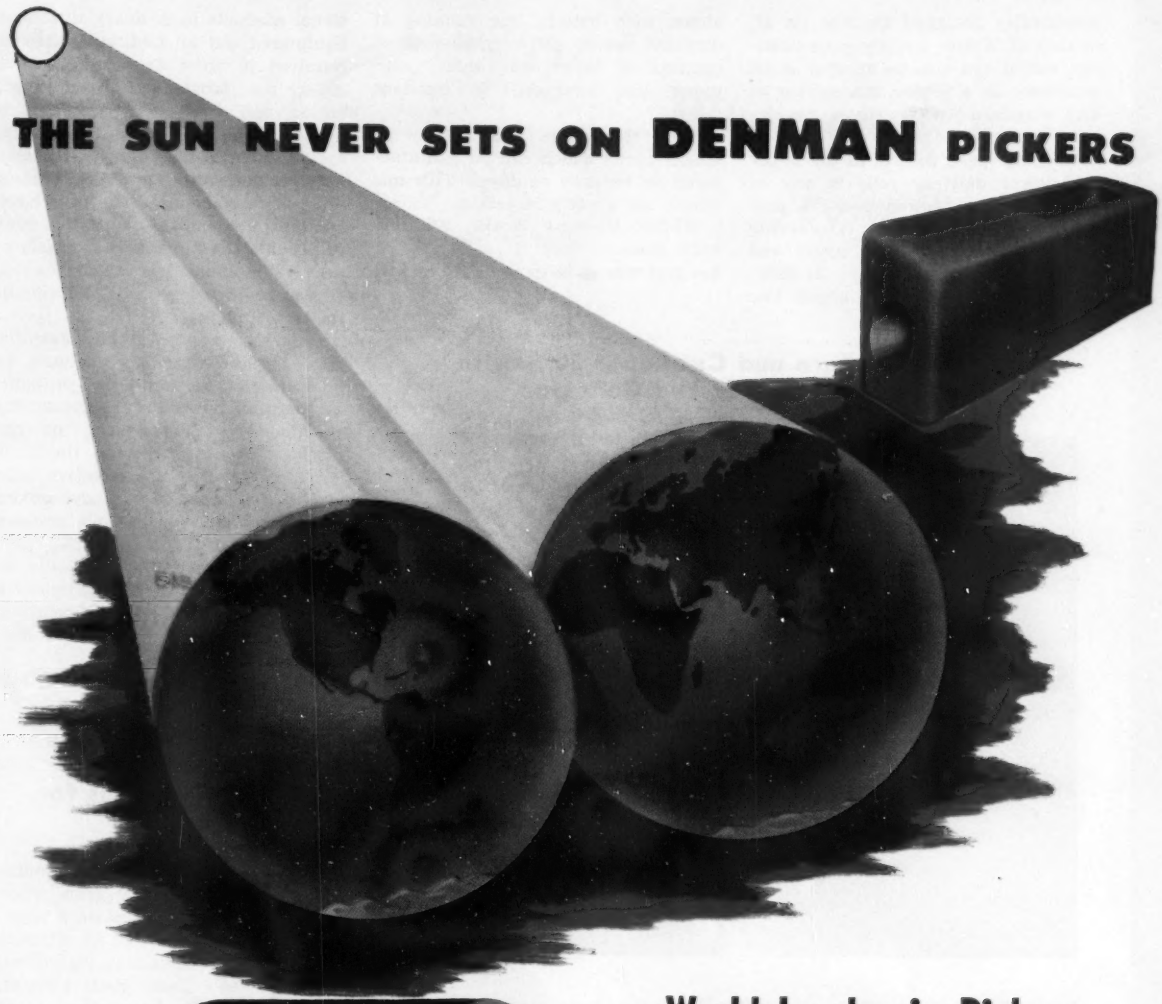
*Southern Sales Representatives:*

**PARROTT & BALLENTINE**

610 South Carolina National Bank Building

Greenville, South Carolina

# THE SUN NEVER SETS ON DENMAN PICKERS



MADE BY
DENMAN TIRE AND
RUBBER CO.
WARREN, OHIO

*Exclusive*
*Sales Representative*

THE Terrell MACHINE COMPANY, INCORPORATED, CHARLOTTE NORTH CAROLINA

## World Leader in Pickers

Denman Pioneer's ability to deliver "Lowest Cost Per Loom Per Year" accounts for its world leadership. In addition, Denman Pioneer has the best running qualities of any picker made today. To match the best picker with the best service, Denman and Terrell are experts in fitting pickers to your individual picker problems. Terrell representatives will gladly make recommendations and furnish samples for tests.

specifically designed for use on all models of Whitin novelty yarn twisters, and it can also be applied as an accessory on a Whitin changeover of any standard twister to a novelty yarn twister.

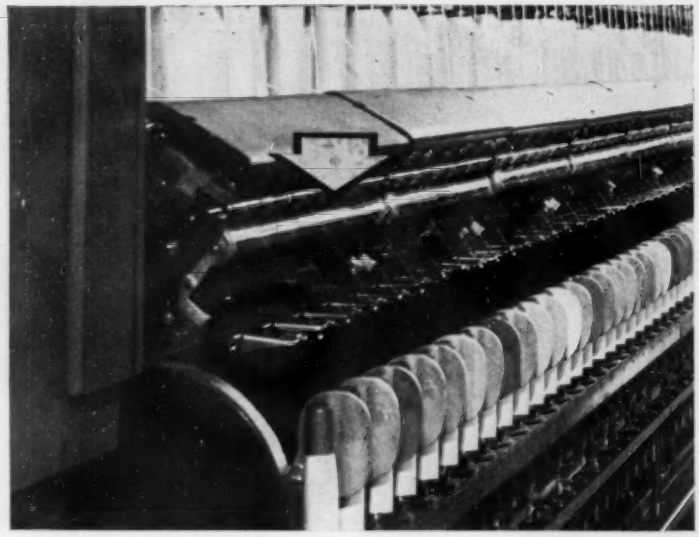
Varying speed control of the upper and lower delivery rolls in any of the following combinations is provided by the attachment: (1) Varying rate of rotation of both upper and lower rolls simultaneously; (2) varying rate of rotation of upper line alone, with bottom line running at constant speed; (3) varying rate of rotation of lower line alone, with upper line operating at constant speed.

Thus the range and variety of splash yarns which can be manufactured on twisters equipped with this device are greatly increased.

*Whitin Machine Works, Whitinsville, Mass.*

More data? Write or use card, p 227; list F-106

## Spin Clean Yarn and Cut Labor 30% with Pneumatic Broken End Collector



Fewer ends down, elimination of lashed ends, improved quality of yarn because wild or flying ends and resultant doublings are eliminated, and up to 30% more spindles assigned to each operator are advantages to be derived when spinning frames are equipped with the Spin-SaVac vacuum scavenger system.

Material drawn into the filter connecting cabinet is ready for reprocessing. As it is not necessary to reclean the yarn after it is spun, stronger and higher quality yarn is the result. Scavenger rolls and roller laps are eliminated, making possible a greater saving of top and bottom rollers.

Main ducts are made from aluminum. The internal surface which is in contact with the fibers is carefully polished to prevent damage to fiber. Spigots connecting suction nozzles under bottom front rolls to the main duct are especially made and treated with flexible, ozone-resistant neoprene to protect against deterioration.

Filter connecting cabinets are equipped with a special air-cooled motor and a heavy duty fan. Collected fiber is readily removed from either side of the cabinet.

*SpinSaVac Corp., 1438 South Tryon St., Charlotte 3, N. C.*

More data? Write or use card, p 227; list F-108

## Outstanding Washfastness for Acetate Fabrics

A new family of dyes and a new dyeing technique provide on piece-dyed acetate fabrics a broad range of colors which display wash fastness equal or superior to that of dyes for other fibers, according to a recent announcement. The new dyes are called "Eastofix" dyes and the new technique the "Eastofix" process.

The dyes are applied by conventional methods in ordinary dyehouse equipment but an additional step is required in order to fix the colors. After the fabric has been dyed, rinsed, and dried, it is run through a padding mangle where fixing salts are forced into the cloth as it passes between the rolls. The fabric is then allowed to stand until the salts have combined chemically with the dyes to provide the outstanding washfastness. The fabric is then soaped, rinsed, and dried on a tenter frame in the usual manner.

Properly applied, the Eastofix dyes exhibit excellent fastness to both atmospheric fumes and sunlight, in addition to their outstanding washfastness. Furthermore, no gas inhibitor is required with them.

While the dyes are effective only on acetate, it is possible to dye mixed acetate-viscose fabrics and achieve wash fastness.

These dyes are also available as print pastes and seem particularly well adapted for application printing.

*Eastman Chemical Products, Inc., 260 Madison Ave., New York, N. Y.*

More data? Write or use card, p 227; list F-109

## Moth-Proofing Spray Protects Woolens for One Year

A new spray guaranteed to moth-proof woolens for one year when used as directed is based on a formula containing Perthane, an efficient and odorless insecticidal ingredient.

Named Gulf Trak Moth Proofer, it is packaged in pressurized 12-oz cans for use in the home or wherever small quantities are required. For large quantity users the product is available in non-pressurized quart and gallon cans to be dispensed by electric or hand-gun sprayers.

The year-long protection is provided by a protective residue of active ingredients left on the fabric when the spray evaporates. This residue either kills invading insects on contact or starves them to death for they cannot feed on fabrics treated with the product.

Clothing or woolens sprayed according to directions require no bags or other protection; they may be safely stored uncovered in closets or on shelves. Colorfast woolens are not stained or shrunk by the spray.

Besides moths, it is useful against roaches, silverfish, ants, centipedes, fleas, spiders.

*Gulf Oil Corporation, 1822 Gulf Building, Pittsburgh 30, Pa.*

More data? Write or use card, p 227; list F-110

*When quality counts . . .*

*it pays to go to a specialist*

**WHEN QUALITY DYE PERFORMANCE COUNTS, IT PAYS TO GO TO**

# ALTHOUSE

Leading Specialists in Dyes for Cotton — Rayon — Nylon and Other Synthetics and **blends**
For 40 years Althouse research has pioneered in raising textile industry standards of

## COLORFASTNESS

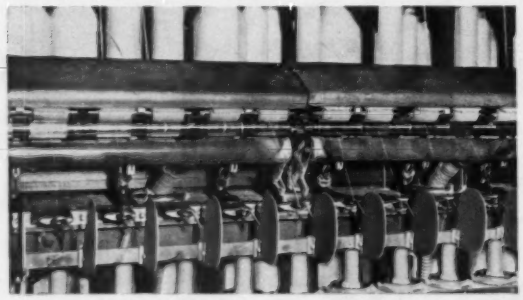
This record of leadership assures highest quality performance when you specify these famous, exclusive Althouse dye specialties:

| | |
|---|---|
| Superlitefasts | Nylanthrenes |
| Azoanthrenes | Nydyes |
| Supernylites | Sol-Aqua-Fast |

ALTHOUSE
*First name in Dyes for Colorfastness*
ALTHOUSE CHEMICAL COMPANY, INC. READING, PA.
Subsidiary of Crompton & Knowles Loom Works

# READ THE PROFITABLE DETAILS ON HOW SPINSAVAC'S VACUUM CLEANING DELIVERS CLEAN YARN, CUTS LABOR 30%

SpinSaVac's pneumatic suction of ends appreciably increases production by reducing the number of ends down. The pneumatic suction greatly eliminates the lashed ends. Quality of yarn is increased because wild or flying ends and resultant doublings are eliminated.



Spindle assignment is as much as 30% greater per operator. Yet, the operator is less hurried because time-consuming cleaning for ends down is eliminated.

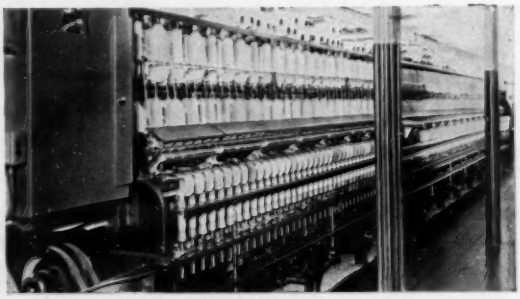
Materials drawn into the filter connecting cabinet by SpinSaVac are ready for re-use, resulting in a considerable saving of raw materials. As it is not necessary to reclean yarn, stronger, better quality yarn results. Scavenger rolls and roller laps are eliminated making possible a greater saving of top and bottom rollers.

Filter connecting cabinets are equipped with a special motor and a high duty fan designed in accordance with the latest knowledge in the field of aero dynamics. The modern design of SpinSaVac allows complete air cooling of the motor.

The collected yarn is readily removed from either side of the filter connecting cabinet.

The main ducts are made from aluminum. The internal surface which is in contact with the fibres is carefully polished, preventing damage to fibre. The spigots connecting the suction nozzles to the main duct are especially made and treated with flexible, ozone resistant neoprene to protect against deterioration.

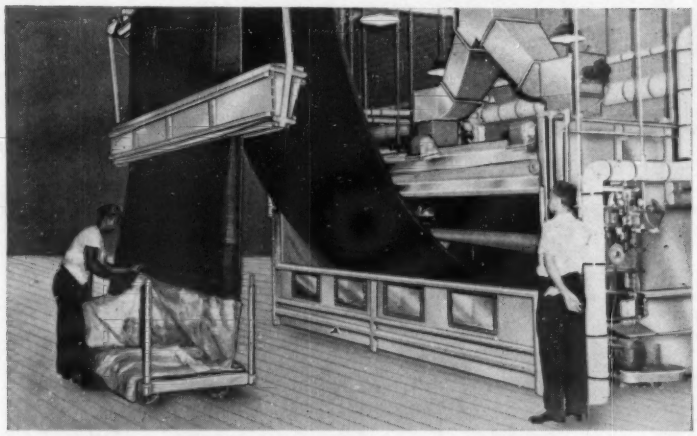
The pneumatic collecting ends down on ringspinning frames has become indispensible for any modern and efficient spinning mill. SpinSaVac's trouble-free operation delivers better quality yarn at a considerable saving in labor and material.



For free brochure on SpinSaVac write to

SPINSAVAC
CORPORATION
1438 SOUTH TRYON STREET
CHARLOTTE 3, N. C.

## Rug Dye Kettle Eliminates Shading Side to Side



An all-stainless-steel rug dye kettle now available eliminates shading from side to side, speeds up the dyeing operation, and reduces requirements of water and steam. The dyeing cycle is reduced, and only one rinsing bath is called for.

While the machine is essentially designed to dye cotton or synthetic rugs in open width, the unit may also be used for rope dyeing.

Two strong impellor pumps are used to induce positive liquor flow. It is impossible for the liquor to lie dormant, and hence there is a resultant positive mixing of the dye, an even deposition of the color on the rugs, and a constant temperature throughout the bath.

An electrically-controlled, all-stainless-steel guider with rubber covered rolls is positioned at the front of the machine to permit the dyeing of a broad range of widths without the use of front-to-back partitions. An efficient profile, with a contour offering minimum resistance to travel of the goods, enables the tub to accommodate heavy rugs with respect to both liquor ratio and cloth weight.

The dye is mixed and brought to the boil in the dye mixing tank with a steam dart nozzle, and then transferred to a distributing pipe which is located across the front of the machine, in the space between the front partition and the front kettle. This efficient delivery assures a quick, even distribution of the dye. Salt is introduced in the same manner.

Positive, assured results are attained with the new kettle, with the additional advantages of easier maintenance, lower labor costs, and lower dyeing costs.

*Riggs & Lombard, Foot of Suffolk St., Lowell, Mass.*

**More data? Write ◂ or use card, p 227; list F-111**

## Lint-Tight Starter for Loom Motors

A new lint-tight starter was especially designed for use in conjunction with loom motors. Designated the Bulletin No. 9115 across-the-line starter, it may be used with single phase and polyphase squirrel cage motors and with small direct current motors on textile machines, machine tools, fans, pumps and any application in dusty atmospheres.

The gasketed cover provides a perfect seal against lint. Free tripping and a tamper-proof mechanism are other features.

Having overload protection, it will instantly sense the power of a damaging overload but will not stop motors needlessly because of a slight increase in current. The motor is allowed to run at its safe, full capacity. This added boost is made possible by the eutectic alloy thermal overload, which trips at the exact instant, not too late, not too soon. Overload heater coils can be selected accurately, getting maximum output from the motor.

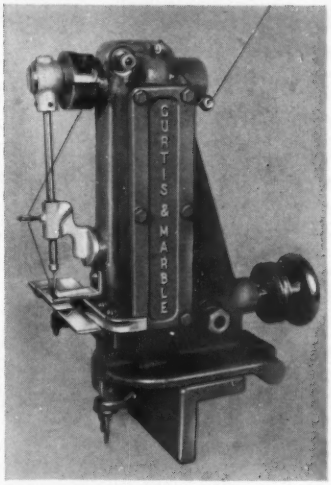
This starter has plated steel members and springs of stainless steel to resist corrosion.

*Cutler-Hammer, Inc., 361 North 12th St., Milwaukee, Wis.*

**More data? Write ◂ or use card, p 227; list F-112**

## Tacking Head for High Speed Applications

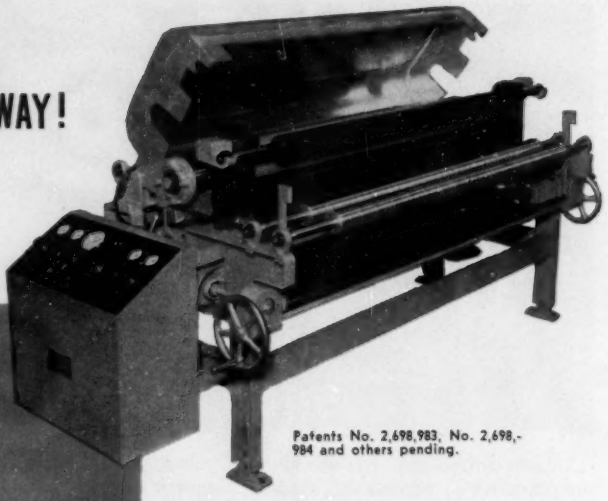
A new tacking head, the Model ONB-SC, was especially developed for high speed applications where the cloth is automatically guided through the tacker. It is especially valuable where the tacker is running in tandem with a scray and soaper or other equipment that needs to operate at high speed.




One of these heads is currently running at 3200 stitches per minute at a mill in Massachusetts where it is delivering trouble-free operation on a 5/8" stitch at approximately 50 yards per minute. The mill reports freedom from maintenance, being able to run a wide range of cloth through the tacking head without frequent adjustments. Thus the operator is free to perform other duties during the running of the tacking range.

The new head has many desirable features including neoprene sealed needle bearings for all rotating parts, counter balanced eccentric, aluminum

# 40,000 LOOMS WORK THE GRIFFIN WAY!



40,000 looms now have their warps sized "under cover" on the Griffin Size Applicators.

These 40,000 looms
WEAVE MORE YARDS USE LESS SIZE
MAKE BEST CLOTH HAVE LOWEST COST

Give your looms the benefit of
"OPERATION UNDER COVER"
write for further information and details.

Patents No. 2,698,983, No. 2,698,-984 and others pending.

**IRA L. GRIFFIN & SONS**
P. O. BOX 1576 CHARLOTTE, N. C.

*John P.* MAGUIRE & COMPANY INC

*ON OPPORTUNITY—*

*Not houses finely roofed or the stone of walls well builded, nay nor canals and dockyards, make the city, but men able to use their opportunity.*

PLUTARCH

Through adequate finance and constructive cooperation, factoring helps men of imagination to capitalize upon opportunity.

JOHN P. MAGUIRE & COMPANY, INC.

FACTORS

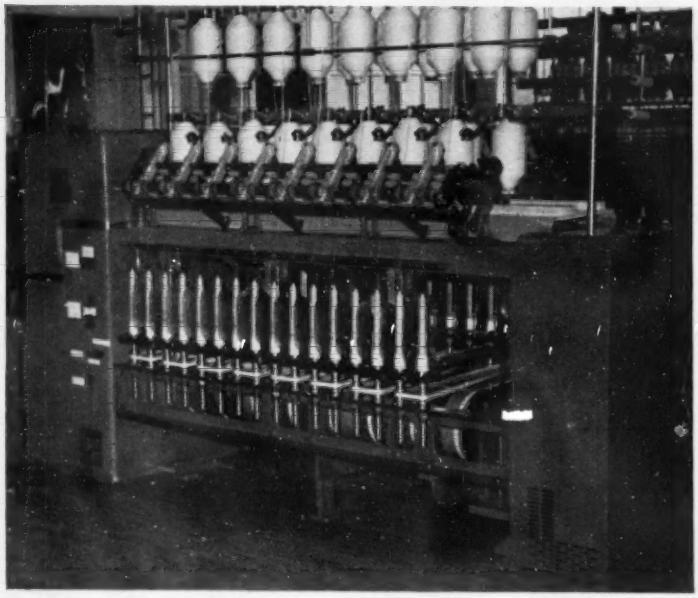
370 Fourth Avenue, New York
Murray Hill 3-4141

needle bar head and guide for vibration-free oscillation, splash lubrication system for main bearings and drive chain with easy to check oil level indicator, porcelain thread guides combined with adjustable tension device for steadier skip free stitching, and completely enclosed silent chain drive.

*Curtis & Marble Machine Co., Worcester, Mass.*

More data? Write ◂ or use card, p 227; list F-113

## There's Less False Twist on this Spinning Frame



There are several interesting features of the spinning frame made by Zinser Textilmaschinen G.M.B.H., Ebersbach/Fils, Germany, and now available through an American agent, according to Watson & Desmond of Charlotte, N. C., southern representatives.

The traversing thread board and the ring rail are lifted in unison with a very smooth and sturdy operation. The drafting system is mounted at a 45-degree angle to improve the yarn travel and reduce false twist.

The tape cylinder has one outboard ball bearing on the end of the shaft and one ball bearing in the conventional position, in addition to ball bearings at conventional locations along the cylinder. A brake on the cylinder eliminates overrun of yarn on the bottom of the bobbins and the possibility of false twist in the yarn.

All of the big gears in the head stock, including the tension gear for the chain, are equipped with roller bearings.

The frame is equipped with the SKF pendulum weighting arm and anti-friction top rolls, eliminating the use of cap bar nebs and oiling. Reiners & Fuerst rings are utilized.

*Texplant Corp., Stamford, Conn.*

More data? Write ◂ or use card, p 227; list F-114

## Dye Sleeve Provides Savings in Initial and Winding Costs

A new stainless steel dye sleeve for Barber-Colman spoolers and some winders has been developed.

Made from heavier gauge Type 304 stainless steel and with greater hole area for faster and even penetration, the tube is beaded on one end and flared at the opposite end to prevent yarn slippage and give additional strength. This simplified construction saves up to 15% in initial cost.

Tests have produced excellent results on pastel shades—equal in quality to darker shades.

*Tool Service Engineering Co., 309 West Crowell St., Monroe, N. C.*

More data? Write ◂ or use card, p 227; list F-115

## Prevent Dye Streaks with this New Light

The Identa-Lite has three 48" ultraviolet ray lamps and a special high intensity reflector. Under its rays each of the potential dye-inhibiting types of fiber, such as immature and cat-eye, cotton, has a characteristic reaction. The same is true of oil spots or other contamination in grey cloth or hosiery.

Thus, the device eliminates potential dye streaks at their source.

*Charlotte Chemical Laboratories, Inc., Charlotte, N. C.*

More data? Write ◂ or use card, p 227; list F-116

## Registration Control Eliminates Spoilage of Fabric

Photoswitch Control Type 23LF3 Model 1006 makes available to industry a registration control which operates continuously over both high and low speed ranges without special attachments. Designed for maintaining precise accuracy in automatic machine operations on textiles, plastics or other sheet material, this control responds instantly to the appearance of a mark printed on material moving past at speeds from 15 ft per minute to more than 500 ft per minute.

The abrupt change in light intensity caused by the passage of this mark actuates the control relay which will trigger speed correction devices, keeping the material in perfect synchronization with the machine operation. This eliminates spoilage, improves product appearance, and increases production.

*Photoswitch Inc., Broadway and 6th St., Cambridge 42, Mass.*

More data? Write ◂ or use card, p 227; list F-117

## Stops Spoilage Due to Dirty Conveyor Chains

Dust and dirt which sticks to lubricating oil on hard-to-reach overhead conveyor chains can now be automatically eliminated without work stoppage by a new conveyor chain brusher. The danger of the spoilage of material in processing from the dropping of accumulated dirt is eliminated by two sets of wheel brushes.

The unit is mounted on the mono-

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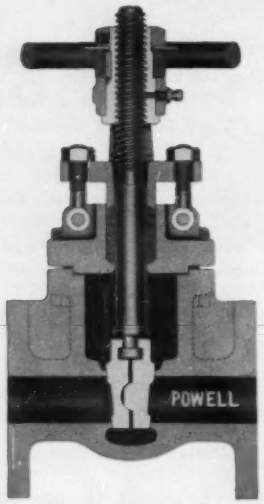
# Preferred for Precision and Performance




Powell Valves are the choice of engineers because they know every valve is precision made, meeting every specification—every time.

And there are other good reasons why engineers prefer Powell Valves—because Powell Valves are dependable . . . economical . . . and Powell has the COMPLETE quality line of valves.

Consult your Powell Valve distributor. If none is near you, we'll be pleased to tell you about our complete line, and help solve any flow control problem you may have.

**The Wm. Powell Company**
**Cincinnati 22, Ohio... 109th year**

FIG. 2495 (Sectional)—Stainless Steel O. S. & Y. Gate Valve for 150 Pounds W. P. Double Wedge Disc is accurately guided to seat.

FIG. 375—Bronze Gate Valve for 200 Pounds W. S. P.

FIG. 150—Bronze Vulcanized Composition Disc Globe Valve for 150 Pounds W. S. P.

FIG. 2193—Large Ni-Resist* Gate Valve for 200 Pounds W. O. G.

*Trade-mark of The International Nickel Co.

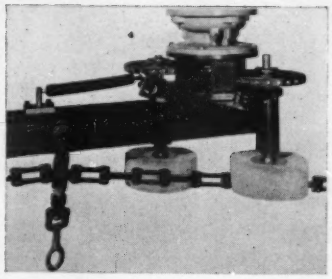
# POWELL VALVES

rail supporting the chain conveyor, and the two brushes, powered by one 1 hp motor, pivot on the motor base and bear against the conveyor chain. The brushes can be swung away from the chain if cleaning is desired only periodically.

Material for the wheel brushes is selected to provide the most efficient brushing action to meet the individual problem, as each machine is "custom engineered." Tampico fiber, nylon, and crimped steel wire are materials frequently used.

*The Fuller Brush Co., Machine Division, Hartford 2, Conn.*

More data? Write ◂ or use card, p 227; list F-118



## Solid Color Argyle Hose Knitter

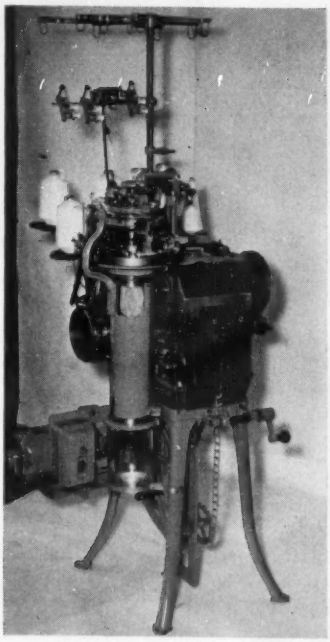
The new "Carolina" Model "ARGL" hose knitter is designed for the express purpose of making men's, boys', and misses' rubber top hose with solid color effects such as diamonds, squares, etc., in various color combinations.

The patterning is determined primarily by the action of levers on the large, easily accessible drum which is mounted on the rear of the machine. This drum has sufficient cam races and moves to accommodate an infinite variety of design possibilities.

In addition to the main drum there are other sources of patterning available to the hosiery designer. These include the pattern selector drum mounted on the jack cam ring.

An interesting feature of the new machine is the eight-finger yarn take-up bracket. Directly connected by a compact lever system to the large drum, these yarn levers are controlled in a positive fashion by the large drum cams. These cams, in turn, are closely coordinated with the needle actuating cams in the same cam race of the large drum. This results in a much more positive control of the yarn as it engages or disengages from the needles.

The knitter is equipped with an auxiliary feed for inserting two yarns in each revolution while the machine is in the rubber top and in the sole. At this point of the hose the cylinder is traveling constantly in one direction. The two-feed attachment enables the machine to produce at a higher rate than otherwise possible. This also enables the rubber to be laid in every other course, at a savings in yarn cost.



*Carolina Knitting Machine Corp., 508 W. 5th St., Charlotte, N. C.*

More data? Write ◂ or use card, p 227; list F-119

## Process Makes Wool Knitted Outerwear Machine-Washable

A new development in the dyeing and finishing of knit goods makes it possible to successfully wash all-wool sweaters and other knitted outergarments in any type of home washing machine with any commercial soap or detergent.

In addition to machine washability, garments made of fabrics processed by this new method which is called "Bannerized" are moth-proof, quick-drying, crease-resistant, color-set, flame-resistant, stay cleaner longer, and do not require stretching or boarding.

Here are some of the advantages to be derived by knitters who have their fabrics dyed and finished by this new process:

(1) Natural (undyed) woolen and worsted yarns can be utilized on the knitting machines, resulting in trouble-free knitting, fewer lint build-ups on needles, and greater production.

(2) Necessity of yarn winding and mill washing is eliminated.

(3) Stock dyeing of lambs-wool and other hair fibers is not required.

(4) Smaller inventory of yarn required because there is no need to stock yarn of different colors for single color fabrics — knit natural yarns exclusively and have goods Bannerized as required. A complete range of shades from white to black and including pastel shades is available. Colors are fast to washing.

(5) Permanent elasticity is imparted to garments, particularly to the ribbed cuffs and waist bands.

The Bannerized process is applicable to all grades of sheep wool, all the specialty hair fibers (including cashmere and lambs-wool), and blends of wool with either specialty hair or fur fibers.

Fabrics to be Bannerized can be sent as sweater-strips, continuous transfer cloth, tubular yard goods, or in completely assembled slipovers and cardigans (except for ribbon bindings and buttons). No special precautions are required in handling yarns destined to be processed in this manner. The only requirement is that the sweater or other item be knitted somewhat tighter and longer.

*Bannerized Corp. of America, 488 Morgan Ave., Brooklyn 22, N. Y.*

More data? Write ◂ or use card, p 227; list F-120

## Improved Automatic Transfer Applying Machine

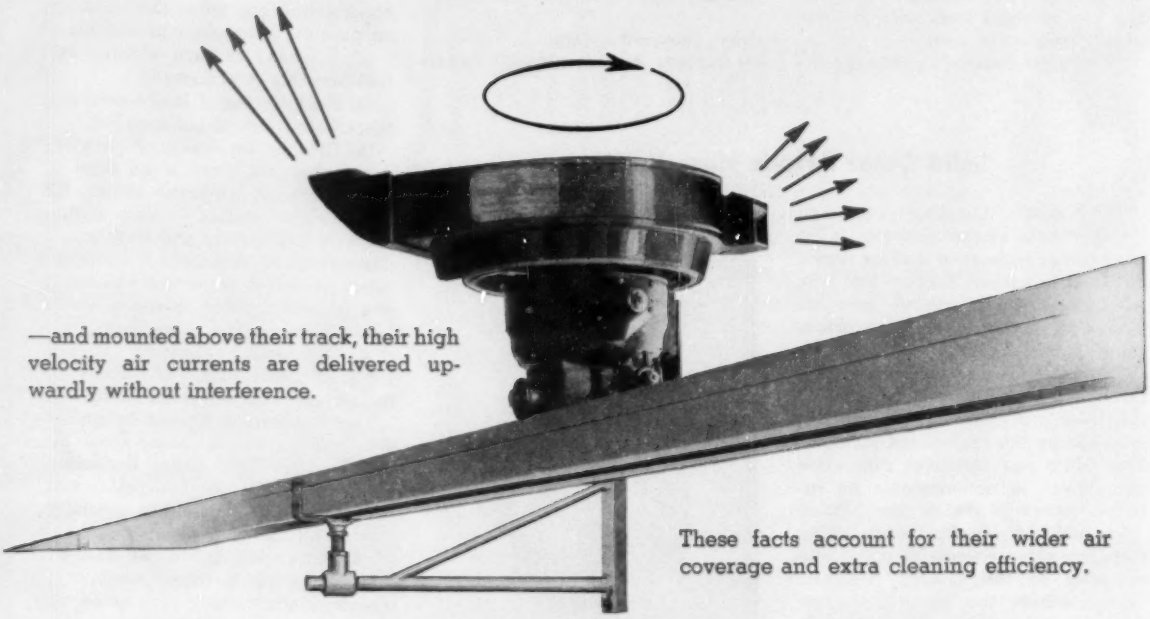
Many improvements indicated by actual use of the original model of the Bowman automatic transfer applying machine [described in TI for June, 1953, page 225] have been incorporated in the new Model 200 which is now available.

Among them are a new conveyor type table for feeding the goods through the machine and a number of technical improvements in the registering of the transfers, etc. This new table also has an intermittent

# Parks-Cramer

## Room Cleaners Revolve Continuously

### About a Vertical Axis



—and mounted above their track, their high velocity air currents are delivered upwardly without interference.

These facts account for their wider air coverage and extra cleaning efficiency.

Parks-Cramer Up-draft and Room Cleaners prevent lint accumulations on ceiling and other overhead surfaces in all departments of the yarn mill. More than 3700 units already installed in over 350 mills.

Travel solo over cards—in tandem with frame cleaners over roving, spinning, twisting, warping and winding operations.

## Parks-Cramer Company

*Humidifying and Air Conditioning Since 1904*
*Traveling Cleaner Systems Since 1926*

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STANDARD
OF THE
WORLD

# 3°30′

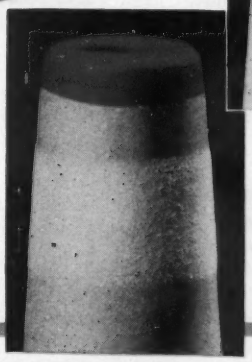
## CONES by SONOCO

This cone is designed for winding rayon, nylon and other filament yarns for knitting or creeling. The SONOCO 3°30′ cone is available in solid colored stock, or plain, and colored lacquer tips or printed bands in various colors can be specified for identification.

To prevent slippage in the primary winding and permit free delivery, the 3°30′ may be ordered with either Velvet or Unitex Surface. Standard lengths: 6″, 6¾″ and 7″. Made in light, medium and heavy weights.

A SONOCO sales-engineer would be glad to personally discuss the advantages of your using this superior cone.

ABOVE—Sonoco Velvet Surface



LEFT—Sonoco Unitex Surface

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MEXICO: Sonoco de México, S. A., Apartado 10239, México, D. F.

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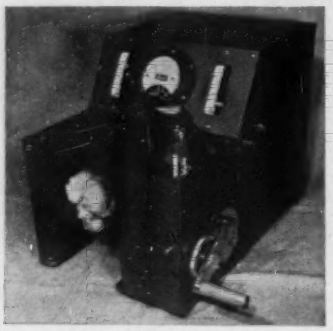
action that feeds the goods as desired to the operator who places the socks on the transfer applying conveyor.

*Southern Mill Equipment Corp., 508 West 5th St., Charlotte, N. C.*

**More data? Write ◆ or use card, p 227; list F-121**

## Instrument Speeds Up Fiber Fineness Tests



A new instrument for the rapid measurement of fiber fineness, called the "Speedar" (from high *speed Arealometer*), is now commercially available.

A self-contained air flow instrument using low pressure differential for measuring the specific area or fineness of the fiber without altering the relative humidity around the fiber, the device was briefly described and its methods of operation given in TEXTILE INDUSTRIES for April, 1955, pp. 139 and 141.

In the accompanying photo is a prototype of the machine which was furnished by the manufacturer of the instrument, Special Instruments Laboratory, Inc., of Knoxville, Tenn.

Sale of the machine is handled by *Uster Corp., 2516 Wilkinson Blvd., Charlotte, N. C.*

**More data? Write ◆ or use card, p 227; list F-122**

## Automatic Double Lock Flat Knitter for Elastic Outerwear

Following are some of the construction features of the Tricoma Type DLS fully automatic double lock power knitting machine for the manufacture of all types of elastic knitted outerwear with tubular French welt or 2/2 bottom:

(1) Two pairs of automatic cardigan locks with auxiliary lowering cams. Cam boxes to be lifted out while carriage remains in position. Automatic passage from double system to single system and vice versa.

(2) Short solid butt needles with high and low butts. Arrangements for avoiding oil spots in knitted fabric.

(3) Racking over 6 x 1 or 3 x 2 needles for full and half courses for manufacture of interesting designs.

(4) Six independent yarn carrier bars.

(5) Short carriage with high bridge.

(6) Card board apparatus controlling all movements of machine can be turned forward and backward and over one or two cards automatically (self-regulating).

(7) Counter is combined with card board apparatus and can easily be set for various lengths of garments.

*Tricoma, Inc., 100 West 42nd St., New York 36, N. Y.*

**More data? Write ◆ or use card, p 227; list F-123**

## Timed-Program Controller Easily, Precisely Adapted to Varying Process Requirements

Direct time settings on a large, easily read time dial and pins set at corresponding intervals in step discs are features of the "Flex-O-Timer" timed-program controller which is used for precise timing and coordination of batch processes. The instrument automatically initiates and stops successive steps in a stop-and-go sequence from beginning to end of the process.

It consists of a motor-driven time-measuring device and an independently driven step disc mechanism controlling the operation of from one to eight electric or pneumatically operated functions, a total of nine functions being available on special order. Each function can be carried through an aggregate of 20 on-and-off steps.

*Taylor Instrument Companies, Rochester 1, N. Y.*

**More data? Write ◆ or use card, p 227; list F-124**

## Equipment Briefs

An **all-silicone-rubber insulating system for large motors and generators,** known as the Silco-Flex system, is immediately available for all Class H insulated form wound coils and for Class A and B windings operating under certain service conditions. Offers these advantages in performance: Heat resistance, even up to 250 C; moisture resistance; abrasion resistance; flexibility and resilience; chemical inertness; and improved heat dissipation.

*Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.*

**More data? Write ◆ or use card, p 227; list F-201**

Designed specifically for use with centrifugal pumps operating in dangerous, damp or dusty locations, is a new line of totally-enclosed and explosion-proof close-coupled **pump motors** which are available in ratings from 1½ to 25 hp. Special features include a face type registered mounting bracket for accurate shaft alignment and simplified pump mounting, precision ground shaft for accurate pump impeller mounting, and solid flange and brass slinger for complete liquid deflection.

*U. S. Electrical Motors Inc., Box 2058 Terminal Annex, Los Angeles 54, Calif.*

**More data? Write ◆ or use card, p 227; list F-202**

**For power operation of hand pipe tools,** a new, small, lightweight power drive on a new type folding tripod with integral tray is announced. Named the Ridgid No. 200, it is powered by a specially designed motor. Capacity, ⅛" to 2" pipe or conduit, ¼" to 2" bolts. Ample power for geared tools to 12".

*The Ridge Tool Co., Elyria, Ohio.*

**More data? Write ◆ or use card, p 227; list F-203**

Recommended for low cost operation where the use of gasoline is safe and where exhaust fumes are neither harmful nor annoying, such as on platforms, ramps, and inter-building operations, is the Load-Mobile Ready-Power **gas-electric fork truck.** Equipped with a 12-hp water-cooled engine, it uses a direct connected generator which serves double function of starting motor and generator.

*Market Forge Co., Everett, Mass.*

**More data? Write ◆ or use card, p 227; list F-204**

Advantages to be derived from use of Landahl **"chainless" conveyors** include: no chain or cable used, no corner sprockets needed, no wear — no take-up, low initial cost, less maintenance. Basically the conveyor is a series of solid steel rods connected by ball-and-socket type universal

joints housed in compact trolley units. These trolley units move freely on ball-bearing steel wheels over tracks formed by parallel steel angles supported from above by C-plates.

*The Landahl Conveyor Co., 539 Dennison Ave., Columbus 8, Ohio.*

**More data? Write ◆ or use card, p 227; list F-205**

A **combination floor seal and finish** called "Surfcoat" is recommended for wood floors and concrete. Floor can be opened to traffic just four hours after it is applied. Highly resistant to grease, oil, alcohol, ink, water, and dirt. Floors treated with the product clean easily. Light in color, non-glare mat finish, slip-resistant surface. Covers about 600 sq ft per gallon.

*Hillyard Chemical Co., St. Joseph, Mo.*

**More data? Write ◆ or use card, p 227; list F-206**

Applicable by the top-, meta-, and bottom-chrome methods of dyeing is National Alizarol Verdon S which **produces subdued bluish-green shades on wool.** It exhibits good light fastness in medium and heavy shades; very good fastness to cross-dyeing, fulling, crabbing, and shrink-proofing; and excellent fastness to other wet processing. More adaptable for raw stock and slub work than for piece goods.

*National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.*

**More data? Write ◆ or use card, p 227; list F-207**

An **electric chain hoist,** known as the CM Lodestar, is designed to serve for its normal life without costly maintenance or interruption in work schedules. Also features shock-proof push button control, lifetime lubrication, self-adjusting heavy duty brake, overload protection, extremely compact size, and low headroom.

*Chisholm-Moore Hoist Div., Columbus McKinnon Chain Corp., Tonawanda, N. Y.*

**More data? Write ◆ or use card, p 227; list F-208**

Utilizing the ion exchange principle of salt splitting as an effective means of reducing alkalinity in boiler feed and process water is a new **dealkalizer** that provides continuous water treatment under pressure with no pumping required.

*Cochrane Corp., Philadelphia 32, Pa.*

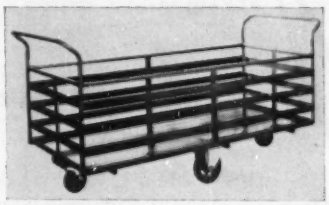
**More data? Write ◆ or use card, p 227; list F-209**

An instrument which combines in a compact two-case unit a two-pen, two-cam **time-program controller with a cycle controller** which times up to eight operations has been announced. Can be used to control two variables such as temperature, humidity, pressure, or vacuum through any predetermined program of values by means of an aluminum cam cut to the proper shape.

*The Bristol Co., Waterbury 20, Conn.*

**More data? Write ◆ or use card, p 227; list F-210**

**Custom-built hand trucks** can now be purchased without paying a premium for having them manufactured to specifications to meet the needs of a particular plant. Several basic styles are offered, including an all-



steel welded utility truck with 6" swivel-type, rubber-tired casters.

*Leebaw Mfg. Co., 65 Wayne Ave., Youngstown, Ohio.*

**More data? Write ◆ or use card, p 227; list F-211**

For controlled lubrication of bearings while a machine is operating or idle is a simple, positive, high-pressure **centralized lubrication system** called the "Centro-Luber System." Pumping unit is manually operated and incorporates a 15-lb capacity reservoir for grease or oil. Indicator shows when lubrication cycle is complete. Easily installed.

*Lincoln Engineering Co., Industrial Div., 5702-15 Natural Bridge Ave., St. Louis 20, Mo.*

**More data? Write ◆ or use card, p 227; list F-212**

Both **steam and hot water can be furnished from a single boiler** now available, increasing operational efficiency and decreasing the amount of equipment and capital investment necessary in situations where the two are required. Basically a hot-water generator, it can be converted to steam operation in a few seconds by simple adjustments. Both steam and hot water phases operate completely automatically once the proper type of operation is selected. Rated at 60 hp.

*Cyclotherm Div., U. S. Radiator Corp., Oswego 1, N. Y.*

**More data? Write ◆ or use card, p 227; list F-213**

"Cem-Seal," a new **one-coat treatment for concrete floors,** forms a seal on the surface of new concrete which prevents deposits of alkaline salts so that dusting is eliminated, holds moisture in new concrete to prolong the curing process to the full 28 days, and results in a denser and harder surface that is extremely resistant to wear. Product is also an effective primer or renewing agent for old concrete floors — stops dusting, provides firm and tight base for paint or other finish. Floors treated with it will not take up grease, oil, water, and dirt.

*Hillyard Chemical Co., St. Joseph, Mo.*

**More data? Write ◆ or use card, p 227; list F-214**

Now available is a **tamper-proof, tumbler-lock reset electric counter,** Model 6-Y-1-2-MF, designed for panel mounting. Totally enclosed, it comes equipped with mounting plate.

*Durant Mfg. Co., 1929 N. Buffum St., Milwaukee 1, Wis.*

**More data? Write ◆ or use card, p 227; list F-215**

Useful in the examination of constituents of materials, the elasticity of fibers, etc., is a new **micro-manipulator** with single one-hand mechanical control so precise that microknives, needles, and pipettes can be kept within even a 0.136 mm field of view during operations on specimens.

*E. Leitz, Inc., 468 Fourth Ave., New York, N. Y.*

**More data? Write ◆ or use card, p 227; list F-216**

The performance of a gas engine truck with the economy of an electric truck is provided by the new 3000-lb Model FD-30 **gas-electric truck** which utilizes a variable voltage generator integral with a gasoline engine. No gear shifting required. Features foot-pedal-operated electrical inching control which permits high speed hoisting at low travel speeds.

*Baker-Raulang Co., Industrial Truck Div., 1250 W. 80th St., Cleveland, Ohio.*

**More data? Write ◆ or use card, p 227; list F-217**

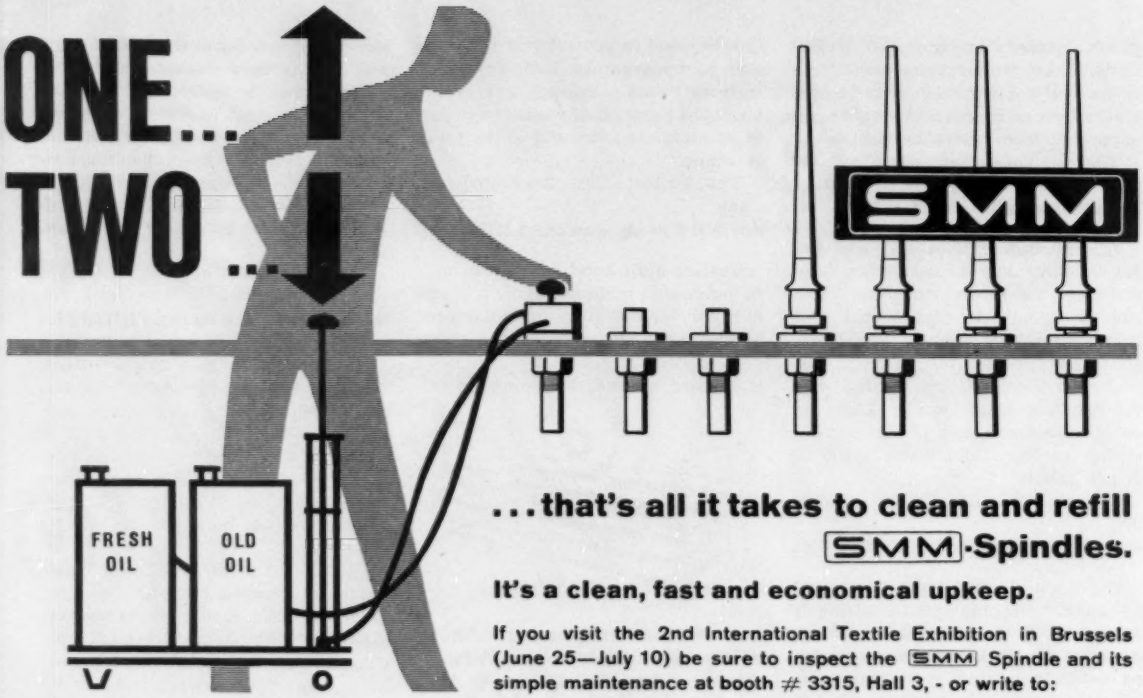
A new instrument, called an **indicating scanner,** makes it possible to test and control continuously an unlimited number of industrial processes from a single vantage point. Monitors variety of process variables involving level, temperature, thickness, mechanical movements, tolerances, weight, and pressure.

*Fielden Instrument Div., Robertshaw-Fulton Controls Co., 2920 N. 4th St., Philadelphia 33, Pa.*

**More data? Write ◆ or use card, p 227; list F-218**

A lightweight, **pocket-size clamp volt-ammeter** with a single, easily read scale for all ranges and functions is known as the Model 749 a-c

# ONE... TWO...




**...that's all it takes to clean and refill SMM-Spindles.**

**It's a clean, fast and economical upkeep.**

If you visit the 2nd International Textile Exhibition in Brussels (June 25—July 10) be sure to inspect the SMM Spindle and its simple maintenance at booth # 3315, Hall 3, - or write to:

**Spindles, Motors and Machines Ltd. Uster** Switzerland

North American Representative: Gubelin International Corporation, P. O. Box 77, Pleasantville, N. Y.

**TRI-NAPPERS**

are superior

Ask to see this new high production napper in operation.

Also investigate our complete machinery and equipment for cutting and finishing of:

**CORDUROY**
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for Northern States: TEXTILE MACHINERY IMPORT CO., INC., New Rochelle, N. Y., 277 North Ave.

# FRANZ MÜLLER
## MASCHINENFABRIK · M.-GLADBACH

**2nd International Textile Exhibition, Bruxelles, from June 25 to July 10, 1955, Hall 5, Combitex-Stall**

clamp volt ammeter. Features special shock-mounted instrument movement to safeguard instrument accuracy and enable it to withstand day-in, day-out service over longer periods.

*Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark 5, N. J.*

**More data? Write or use card, p 227; list F-219**

No tipping or pick-up space when handling barrels touching each other is required when a new **barrel handling truck,** designated the Valley Barrel Cart Model 600, is utilized. Has an automatic spring-actuated bar that allows a hook to slip over barrel edge as truck is moved against barrel without operator touching either hook or barrel.

*Valley Craft Products, Inc., 760 Jefferson Ave., Lake City, Minn.*

**More data? Write or use card, p 227; list F-220**

Jet **black shades are produced on cotton and rayon** when National Black K Salt is combined with National Naphthols AS-BG, AS-BS, and AS-SW; while reddish black shades are obtained when the stabilized diazonium salt is coupled with most of the other National Naphthols. Most have very good to excellent fastness to light, washing, soda boil, hot pressing, and other wet processing.

*National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.*

**More data? Write or use card, p 227; list F-221**

Wall-mounted master stations and economical "single amplifier" operation are two of the outstanding features of the new "6000" **electronic Intercom System.** Each master station may originate calls to five other master stations and may accept and reply to calls from any number of similar stations. Also provides complete facilities for paging to speed-up location of roving personnel.

*Executone, Inc., 415 Lexington Ave., New York 17, N. Y.*

**More data? Write or use card, p 227; list F-222**

Exceptionally long service, even in "problem installations," can be obtained from a **bronze globe valve** designated the LQ600, because of two new elements — a new seating metal and its flat-seat design. "Brinalloy" is the name of the new seating metal which is hardened all the way through so that its resistance to wear and corrosion is outstanding. Seats and discs made of this new alloy do not require replacement, renewing, or regrinding.

*Lunkenheimer Co., Box 360, Cincinnati 14, Ohio.*

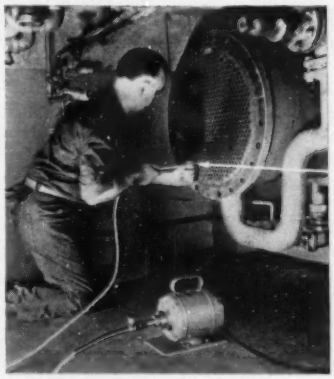
**More data? Write or use card, p 227; list F-223**

Recommended for mixing dyes, starches, etc., is the Rheinhuette **mixer** which works on the principle of a centrifugal pump. Heavy liquids or solids are drawn up from bottom of the container and lighter liquids are drawn down from top. At same time, centrifugal force increases and liquid is impelled outward, creating a violent mixing agitation, at greater velocity.

*Neumann & Weaver, Inc., 22-12 Raphel St., Fair Lawn, N. J.*

**More data? Write or use card, p 227; list F-224**

A new electrically driven **cleaner for air conditioning condenser tubes** 5/8" to 7/8" outside diameter simplifies the removal of algae, slime, and mud deposits. Called the AB tube



cleaner, it is lightweight and portable. Use of the device results in immediate reduction of condenser head pressure.

*Thomas C. Wilson, Inc., Long Island City, N. Y.*

**More data? Write or use card, p 227; list F-225**

A series of new **anti-microbial chemical compounds** for application to textiles, including fabrics for industrial, apparel, and home furnishings, is marketed under the name "Sub-Du." Functions as efficient deodorant, preventing formation of unpleasant odors caused by perspiration, urine, etc. Prevents mildewing. Nontoxic, odorless, colorless compound, highly substantive to natural and synthetic fibers. No special equipment required for application.

*Wilcris Chemical Corp., 342 Madison Ave., New York 17, N. Y.*

**More data? Write or use card, p 227; list F-226**

**Tradenames, trademarks, and other designs can be embossed on fabrics,** leather, and plastics with the Markem Model 79A machine equipped with conveyor feed and ejection for rapid production and operator safety. Prints from 20 to 80 objects per minute. Air operated, it requires no adjustment for variation in stock thickness. Thermostatic heat control of printing head and high quality leaf provide durable, attractive imprints in gold, silver, or colors.

*Markem Machine Co., Keene 49, N. H.*

**More data? Write or use card, p 227; list F-227**

An Underwriters' Laboratories approved **pressurized water type fire extinguisher,** called "Elk-Air," offers savings because on-the-spot recharging is accomplished by merely replacing the water and pressurizing with compressed air from a hand pump or mill supply line. Holds 2½ gallons of water. Gauge indicates pressure continuously to show that extinguisher is ready for action.

*Elkhart Brass Mfg. Co., Inc., Elkhart, Ind.*

**More data? Write or use card, p 227; list F-228**

Tenalons are **solvent-type carriers used for dyeing 100% Dacron and its blends.** Form on fiber a deposit in which acetate dyestuffs dissolve. As temperature increases, dyestuffs are transferred from the Tanalon into the fiber. Permit even dyeing without spotting or tarring; do not affect light fastness; control staining of wool by acetate dyestuffs; protect water repellency; need no special soaping.

*The Tanatex Corp., Belleville Turnpike, Kearny, N. J.*

**More data? Write or use card, p 227; list F-229**

"Splic-It" is an economical, ready-to-use **material for quickly splicing yarn ends without using knots.** When properly used, it gives an immediate, strong bond between the yarn ends, yet the splice is extremely soft and flexible. Available in three types: (1) a neutral color cement for use where yarn is to be subsequently dyed and processed at normal temperatures; (2) a special heat-resisting formulation for use where dyeing and other processing are carried out at above normal temperatures; (3) regular Splic-It colored to standard shades of red, green, blue, etc. — individual shades can be matched on special order.

*Pioneer Latex & Chemical Co., Lincoln Blvd., Middlesex, N. J.*

**More data? Write or use card, p 227; list F-230**

An **iridescent yarn,** designed to produce the "pearlized effect which has caused so much comment in the European markets," is available in the 1/50" and 1/32" widths. Some

uses include fabrics for shoes, hats, handbags, braids, laces, and all types of outerwear.

*Metlon Corp., 432 Fourth Ave., New York 16, N. Y.*

More data? Write ◆ or use card, p 227; list F-231

Synterge 750/25 is a chemically stable, non-ionic, **emulsifying, wetting, degreasing, and scouring agent;** pigment and color dispersing agent; levelling agent; penetrant and stabilizing agent. Shipped as a readily water-soluble, clear, viscous, yellow liquid with a bland, ether odor in 55-gallon drums. This 25% product is also available as a 100% (Synterge 750) and a 33 1/3% (Synterge/3) product.

*Colloids, Inc., 394-398 Frelinghuysen Ave., Newark 5, N. J.*

More data? Write ◆ or use card, p 227; list F-232

Unusual pickup power on big wet or dry cleanup jobs is provided by the new G-400 **industrial vacuum cleaner** which is equipped with a 1 hp ac-dc by-pass motor and 2-stage turbine that create a suction equal to 63" water lift with closed orifice. Tank holds 10 gallons of wet or 1½ bushels of dry material.

*Multi-Clean Products, Inc., 2277 Ford Parkway, St. Paul 1, Minn.*

More data? Write ◆ or use card, p 227; list F-233

**3-D microscopes,** called stereomicroscopes, help operatives do high precision work with much less training and greatly reduce eye strain. Magnification produced by the instruments ranges from 6 to 150 diameters, depending on working requirements.

*Bausch & Lomb Optical Co., Rochester, N. Y.*

More data? Write ◆ or use card, p 227; list F-234

The "Drusil" line of **silicone finishes for rayon, acetate, Orlon, Dacron, and wool fabrics and mixtures of these,** produces a wide range of surface effects and hand—from a soft silky drape to a worsted, thick or leathery hand. Regular laundering or dry cleaning will not alter original hand. Low curing temperatures may be utilized.

*E. F. Drew & Co., 15 East 26th St., Palmo, N. Y.*

More data? Write ◆ or use card, p 227; list F-235

**Aluminum formate** is now available in crystalline form. With 30% equivalent alumina content, it is free of aluminum chloride and sodium sulfate. The solid form reduces shipping costs by eliminating unnecessary transportation of water.

*Aceto Chemical Co., Inc., Flushing 54, N. Y.*

More data? Write ◆ or use card, p 227; list F-236

A new NEMA-specification **electric motor designed to operate in extremely dangerous areas** is presently made in ratings from 1 to 5 hp. It is fully enclosed with special provision to guard against fire, dust, and moisture. Type E is equipped with a sparkproof aluminum fan and Type EN is without fan.

*U. S. Electrical Motors, Inc., Box 2058, Los Angeles 54, Calif.*

More data? Write ◆ or use card, p 227; list F-237

A **self-propelled lifter,** known as the Walkie-Worklifter, has a lifting capacity of 1000 lb and is available in many models including a straddle base type with a lifting range of 108". Standard platform models are made with lifting ranges up to 110".

*Economy Engineering Co., 4511 W. Lake St., Chicago 24, Ill.*

More data? Write ◆ or use card, p 227; list F-238

Dextrol GM-94, a **non-ionic softener** with no wetting or rewetting properties, is designed specifically for use with water repellents of both permanent and non-permanent types and does not affect the spray ratings of fabrics. Goods may be softened prior to application of water repellent finish or softener may be mixed with repellent. Provides high resistance to salt, acids, and alkalies, and will not develop odor or color in storage of treated fabrics.

*Dexter Chemical Corp., New York 59, N. Y.*

More data? Write ◆ or use card, p 227; list F-239

A **retractable position lock for castered trucks** offers 3¼" ground clearance when retracted, making it ideal for use on scaffolds, floor trucks, and similar portable equipment. Positive locking action insures safe and secure positioning of equipment. Device locks and releases with minimum downward foot pressure on accessible, easy-operating control levers.

*The Bassick Co., Bridgeport 2, Conn.*

More data? Write ◆ or use card, p 227; list F-240

Two new **glass reinforced polyethylene tapes** are available. The pressure-sensitive No. 875 tape has a tensile strength of 150 lb per inch of tape width and is 9 mils thick; non-pressure-sensitive No. 877 has a tensile strength of 100 lb per inch of tape width and is 11½ mils thick. Backings are resistant to most chemicals.

*Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul 6, Minn.*

More data? Write ◆ or use card, p 227; list F-241

The **Drape-Flex Stiffness Tester** developed for the U. S. Navy Clothing Supply Office (described in TI for May, 1954, page 118) is now being manufactured for sale to textile mills.

*Fabric Development Tests, P. O. Box 45, Brooklyn 32, N. Y.*

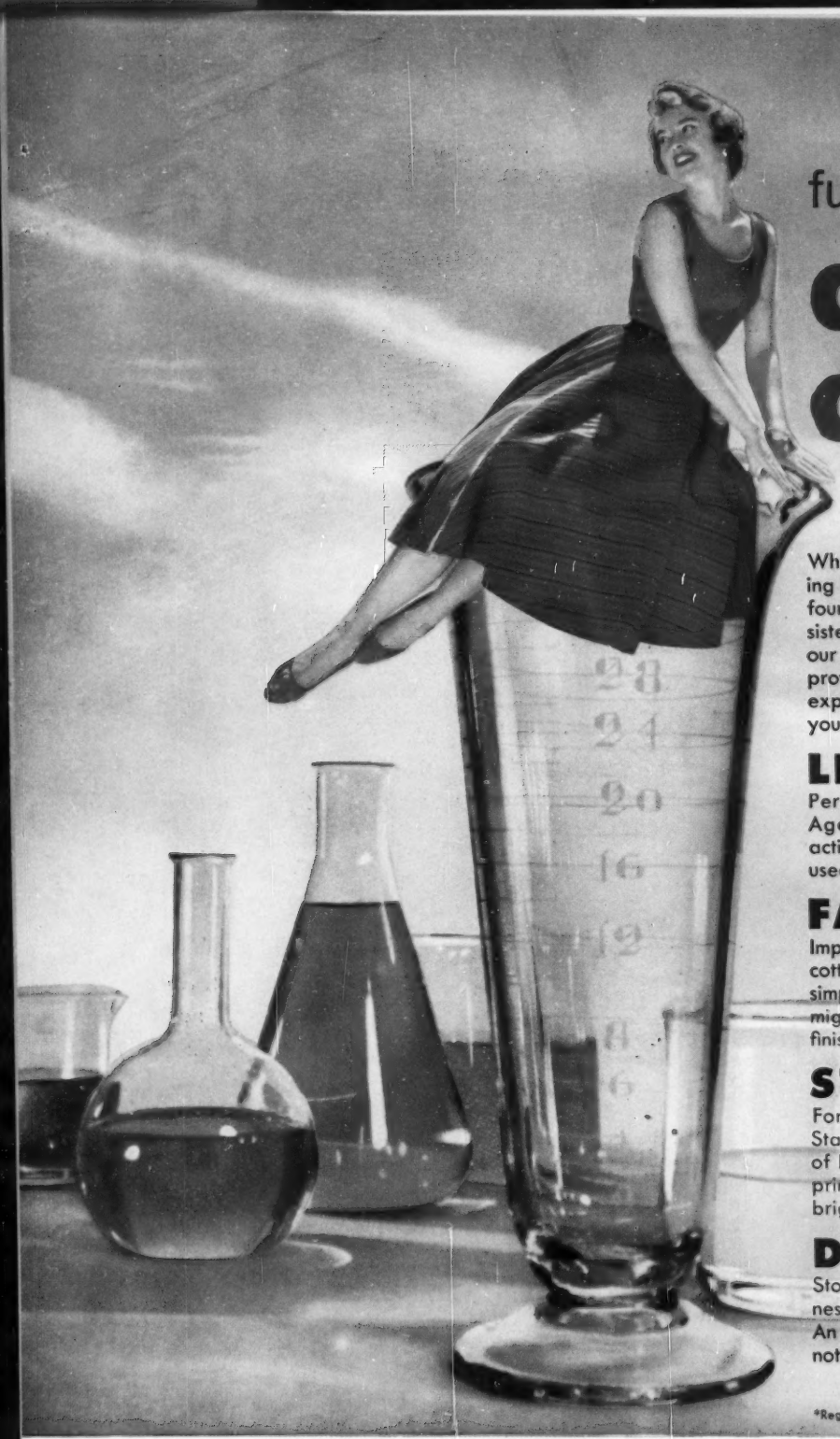
More data? Write ◆ or use card, p 227; list F-242

## New Books

Recently published by the Textile Institute, 10 Blackfriars St., Manchester 3, England, is *Worsted Drawing and Spinning* (Part 1: Drawing) by H. Walker, manager of a woolen and worsted spinning plant. Written with needs of both student and overseer in mind, it includes sections on open drawing, gilling, the spindle gill box, drawing boxes, cone drawing, French and continental drawing, and drawing developments and stop motions.

To keep up to date the triennially published *Book of ASTM Standards,* the American Society for Testing Materials, in the intervening years, issues supplements to each part of the book. The 1954 supplements, issued in seven parts, give in their latest form specifications, tests, and definitions which either were issued for the first time in 1954 or revised since their appearance in the 1952 book or the 1953 supplement. Part 7, of interest to textile industry personnel, includes standards on textile materials (terms and definitions, quantitative analysis, resistance to pests and micro-organisms, fibers, yarns, fabrics); soaps and detergents; paper; adhesives; water (sampling and analytical methods); and methods of mechanical testing. Price, $3.50 per part. Write ASTM at 1916 Race St., Philadelphia 3, Pa.

Written for those who have studied chemistry and are now desirous of learning more about both theoretical and applied emulsions than the "passing mention" given the topic in physical chemistry courses is the new book *Principles of Emulsion Technology* by Paul Becher of Colgate-Palmolive Co. General principles are presented in terms of practical examples. Published by Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. Price, $2.95.



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**6-1 Waste Heat Recovery.** Color booklet by Bready Engineering Corp. shows how a 40% to 60% reduction in water heating boiler load may be effected. Direct labor cost reductions made possible. Write Bready Engineering Corp., 5200 W. State St., Milwaukee, Wisc.

**6-2 Powder Metallurgy.** New 52-page treatise, particularly useful to engineers in determining where metal powder units can best be used and how they can be employed most profitably. Write Amplex Div., Chrysler Corp., Detroit 31, Michigan.

**6-3 Handbook on Rubber Rolls.** 60-page handbook contains complete, up-to-date information concerning every phase of rubber roll manufacture, characteristics, applications, operation, and maintenance. Write Rodney Hunt Machine Co., Orange, Mass.

**6-4 Chain Hoists.** 12-page illustrated catalog presents a complete description, including specifications and prices of new Chisholm-Moore Lodestar electric chain hoist. Write Chisholm-Moore Hoist Division, Columbus McKinnon Chain Corp., Tonawanda, New York.

**6-5 Industry Handbook on Rubber Rolls.** 60-page illustrated handbook contains complete, up-to-date information concerning every phase of roll manufacture, characteristic, application, operation, and maintenance. Write Rodney Hunt Machine Co., Orange, Mass.

**6-6 Temperature Control Systems.** Bulletin by Wheelco is now available to individuals interested in the application of automatic control to industrial process applications. Write Barber-Colman Co., Wheelco Instruments Division, Rockford, Ill.

**6-7 Protected Profits.** A booklet entitled "The Protected Profit Program," which describes a profit building plan to help manufacturers expand their business without increasing investment or risk, is now available. Write Commercial Factors Corp., 2 Park Ave., New York 16, N. Y.

**6-8 Floor Maintenance.** Illustrated booklet describes applications, quality features, attachments, various models and sizes of floor surfacing machines. Specifications included. Write American Floor Surfacing Machine Co., Toledo 3, Ohio.

**6-9 Properties and Uses of Vulcanized Fibre and Laminated Plastic.** 16-page color bulletin covers the properties, grades and uses of National vulcanized fibre and Phenolite laminated plastic. Write National Vulcanized Fibre Co., 1055 Beech Street, Wilmington 99, Delaware.

**6-10 Uses of Felt.** Technical brochure describes hundreds of uses of felt, with particular emphasis on mechanical applications. Shows how felt improves efficiency of a given piece of equipment. Write Felters Company, 210 South St., Boston 11, Mass.

**6-11 Thermodynamic Steam Trap.** Bulletin describes revolutionary new Sarco Thermodynamic steam trap and explains why maintenance is reduced. Gives features, specifications and loads. Write Sarco Co., Inc., Dept. P., Empire State Bldg., New York 1, New York.

**6-12 New Enclosed Electric Motor.** 12-page booklet illustrates the numerous features of the new Type H Uniclosed motor. Contains cut-open views of motors, specifications and capacities. Write U. S. Electric Motors, Inc., Box 2058, Los Angeles 54, Calif.

**6-13 Heavy-Duty Electrical Conduit.** Booklet shows how specially protected conduit stands up under the corrosive attacks of salt spray, sulfuric acid, caustic soda and excessive heat. Write National Electric Products Corp., Gateway Center, Pittsburgh, Pa.

**6-14 Mules and Ring-Spinning Frames.** Color brochure describes MAK Self-Acting Mules and Ring-Spinning Frames. Shows how more efficiency, improved spinning and less maintenance may be achieved. Complete with pictures and diagrams. Write TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Ga.

**6-15 Liquidation Information.** Information available on how to profitably dispose of mill properties being liquidated. Tells how Comer will buy, sell and relocate industry in your former site. Write Comer Machinery Co., 684 W. Peachtree St., Atlanta, Ga.

**6-16 Low Cost Dyeing.** Bulletin by Blickman describes their fully enclosed, stainless steel Dyebox. Reports increased production per man hour and more runs per day at lower cost. Write for bulletin 7034 S. Blickman, Inc., Gregory Ave., Weehawken, N. J.

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19. **INDUSTRIAL BUILDING**—A 32-page booklet entitled "U.S.S. 12. U.S.S. 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 stainless steel sheets in the construction of industrial and semi-industrial buildings.—U. S. STEEL CO., 525 William Penn Pl., Pittsburgh 30, Pa.

22. **THE WONALANCET WAY**—Is the title of a editorial booklet published five times a year and deals with current problems which appear worthwhile at the time they are written.—WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

## PLANT & PLANT MAINTENANCE . . .

100. **MOTION CONTROL WITH SILENTBLOC**—Brochure describes advantages of General Tire Company's Silentbloc meched of protecting delicate instruments, reducing machine vibration, etc.—THE GENERAL TIRE CO., Industrial Products Div., Akron, Ohio.

102. **"TANK TALK"**—Sixteen-page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. **HUMIDIFICATION, EVAPORATIVE COOLING**—Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment.—AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

105. **CASTERS AND WHEELS**—Catalog gives complete descriptions on full line of industrial casters and wheels. Features patented "LOCKWELD Steel Casters Without A Kingpin" both Single and Double Ball Race.—THE FAIRBANKS CO., 393 Lafayette St., New York 3, N. Y.

106. **FINNELL COMBINATION SCRUBBER-VAC**—Illustrated literature gives complete specifications and describes various methods of combination-machine-scrubbing, including method recommended for cleaning oily floors.—FINNELL SYSTEMS, INC., 1309 East St., Elkhart, Indiana.

108. **MAPLE FLOORING**—Booklet describing finishing of Northern Hard Maple Flooring—list of M.F.M.A.-approved heavy-duty floor finishes.—MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacker Dr., Chicago 1, Ill.

111. **CERTIFIED CLIMATE AIRCHANGER SYSTEM**—Bulletin describes Certified Climate Airchanger System as used with direct humidification for partial or complete air conditioning.—PARKS-CRAMER CO., Fitchburg, Mass.

112. **HARDWOOD FLOORING**—Booklet entitled "Specialist in Manufacturing of Hard Maple Flooring for Textile Plants."—CONNOR LUMBER & LAND COMPANY, P. O. Box 810, Wausau, Wisconsin.

114. **PENETRATING WOOD FINISH**—Bulletin gives applications, uses and application specifications of floor seals for textiles.—E. I. du PONT de NEMOURS & CO., INC., Finishes Division, Wilmington, Delaware.

115. **FOAMGLAS**—Illustrated brochure features information on how the use of Foamglas cellular glass insulation solved the severe insulating problems of leading users.—PITTSBURGH CORNING CORP., One Gateway Center, Pittsburgh 22, Pa.

116. **STOP CORROSION**—Details on speed Rex paint for metal, wood and concrete maintenance solving condensation problems.—TRUSCON LABORATORIES, Box 69, Milwaukee Junction, P. O. Dept. T, Detroit 11, Mich.

117. **CLEANING SYSTEMS**—Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two-story layout of Certified Climate central station air conditioning system.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

119. **UNBRAKO STANDARDS**—Catalog by Standard Pressed Steel Co. describes in pictures and text the company's line of Unbrako precision threaded fasteners. Several applications of each product are indicated in line drawings to suggest hundreds of others and to stimulate the imagination of design engineers.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

123. **COTTON MILL EQUIPMENT**—This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

127. **SOLENOID VALVES**—Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three-way solenoid valves, etc.; typical installations.—THE JOHNSON CORP., Three Rivers, Mich.

131. **"AIR PROCESSING."**—Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc.—J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

135. **COLOR CONDITIONING**—Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid.—E. I. DU PONT DE NEMOURS & CO., INC., Finishes Div., Wilmington 98, Delaware.

138. **METAL CONVEYOR BELTS**—Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and application, along with their Woven Wire constructions and Positive Drive Chain Mtgs belts.—ASHWORTH BROS., INC., Metal Products Div., Fall River, Mass.

140. **FUNCTIONAL GLASS BLOCK DATA**—Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks.—PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. **RIHCO HUMIDIFIERS AND COOLING SYSTEMS**—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaprative cooling systems.—ALDRICH MACHINE WORKS, Greenwood, S. C.

151. **INDUSTRIAL BRUSHES**—Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. **LAMINATED TEXTILE PLASTICS**—Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry.—SYNTHANE CORPORATION, Textile Division, Oaks, Pa.

161. **AUTOMATIC CLEANING EQUIPMENT**—Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit.—AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

162. **MODERN METHODS OF TEXTILE FLOOR MAINTENANCE**—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.—G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

169. **MACHINE BRUSHES**—Illustrated folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request.—INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. **BLOWERS AND EXHAUSTERS**—Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings.—BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. **PAINT STRIPPING BOOKLET**—Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion.—OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

176. **STOKERS AND BOILERROOM EQUIPMENT**—For information on boilerroom problems, improvements and apparatus.—McBURNEY STOKER CO., 2110 Peachtree Rd., Atlanta, Georgia.

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203. **TREADED LEATHER BELTING**—This 16-page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section.—E. F. HOUGHTON & CO., Philadelphia, Pa.

208. **LOOM MOTOR BULLETIN**—The new design of this ball bearing motor is claimed to represent an advance in the design of loom motors fully discussed.—THE LOUIS ALLIS CO., 427 E. Stewart St., Milwaukee, Wisconsin.

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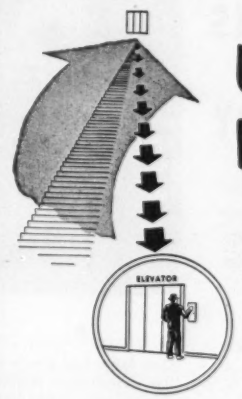


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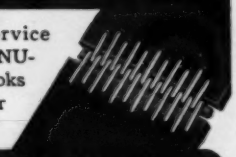

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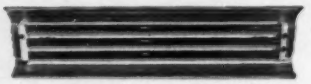

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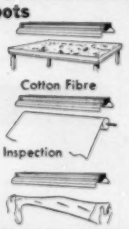


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### DYEING, FINISHING CLOTH ROOM . . .

**601. CONTINUOUS PEROXIDE BLEACHING RANGES**—Booklet gives illustrations and describes uses and gives specification of Ranges.—RODNEY HUNT MACHINE CO., 49 Mill St., Orange, Mass.

**602. CONTROLLED VAT DYEING** — Calco technical booklet No. 828 discusses Stabilization of Vat Dyes at Elevated Temperatures, Instrumental and Analytical measurements, Leuco Potentials.—AMERICAN CYANAMID CO., Calco Chemical Division, Bound Brook, N. J.

**606. HYDRAULIC POWER UNITS**—Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

**608. WASHERS FOR SCOURING, BLEACHING, ACIDIFYING** — Well-illustrated booklet shows how Sargent's modern, high-capacity, continuous process washers can help maintain quality and decrease costs. Contains operation diagram and good commentary on construction.—C. G. SARGENT'S SONS CORPORATION, Graniteville, Mass.

**610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY**—Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

**614. TEXTILE FINISHING MACHINERY**—Further information concerning the Wiesner-Rapp textile finishing machinery as connected with the Textile and Chemical Industries. Helpful in discussing processing problems.—THE WIESNER-RAPP CO., INC., 1603 Seneca St., Buffalo 10, N. Y.

**615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY** — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs.—FLETCHER WORKS, INC., Philadelphia, Pa.

**616. FINISHING DRIVES**—32-page booklet covers complete drives Westinghouse has engineered for the textile finishing industry. Describes all types of finishing ranges and discusses advantages of Westinghouse drives for these installations. "Packaged" drives for batch processes covered.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

**617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING**—Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

**619. PENFORD FINISHING GUMS**—Booklet by Penick & Ford gives complete data, including physical properties and results which may be expected on Penford gums.—PENICK & FORD, LTD., 420 Lexington Ave., New York 17, N. Y.

**620. REGENERATION OF ZEOLITE WATER SOFTENERS**—Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job.—INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

**623. SELVAGE GUIDER**—The Marshall and Williams positive overfeed and selvage guider is described in a brochure as being developed to meet the most modern requirements of the textile finishing industry. Full description, pictures and advantages discussed.—MARSHALL & WILLIAMS CORPORATION, 46 Baker Street, Providence 5, R. I.

**627. SINGLE APRON STOCK DRYERS**—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

**628. TREATMENT OF SYNTHETIC TEXTILE FINISHES**—High speed drying and curing of synthetic finishes by means of far-infrared radiation is covered in a new 22-page folder entitled "The Textile Report."—EDWIN L. WIEGAND COMPANY, 7700 Thomas Blvd., Pittsburgh 8, Pa.

**630. COMPLETE NAPTHOL MANUAL**—Practical working handbook, 110 pages, on textile dyeing and printing applications of Napthols.—PFISTER CHEMICAL WORKS, Box 326, Ridgefield, N. J.

# HELPFUL BOOKLETS FREE!

**631. ELIMINATE DYE-BATH SHOCK**—Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods.—FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

**632. LUG STRAP WASHERS**—Series 1-C illustrated bulletin detailing right and wrong application and use of washers.—E. H. JACOBS NORTHERN DIV., Danielson, Conn.

**637. BALL BEARING TURN TABLE**—Leaflet describing this 48" diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed.—BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

**639. ROTARY DYEING MACHINE**—Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc.—SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

**653. GUIDERS AND TENSION DEVICES**—Illustrated and described are the Mount Hope Precision Guiders and open width tension devices used for accurate, straight line guiding of open width goods. Bulletin SG-PG.—MOUNT HOPE MACHINERY CO., 15 Fifth St., Taunton, Mass.

**658. BEAM MULTIPLE DYEING**—Information on the Morton System Horizontal Beam Dyeing machine is available. Features include minimum handling of beams and the use of a common or individual dye-bath for as many as six beams.—MORTON MACHINE WORKS, 1718 Third Avenue, Columbus, Ga.

## DYESTUFFS, CHEMICALS, SOAPS . . .

**701. MAGNESIUM APPLICATIONS**—Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry.—DOW CHEMICAL CO., Midland, Mich.

**704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES**—24-page booklet entitled "If You Use Water" discusses the fundamentals of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization.—ROHM & HAAS COMPANY, Resinous Products Div., Washington Square, Philadelphia 5, Pa.

**705. THEORETICAL AND APPLIED SILK-SOAKING**—Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

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**714. NEW SODA ASH BULLETIN**—64-page edition contains both new material and revisions of previously used data covering the subject.—SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

**715. AQUAROL AND ARKANSAS PRODUCTS**—Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

**719. WOOL OIL**—Descriptive booklet on antistatic fiber lubricant, Twitchell 7421. Performance factors given particular emphasis are static control, scourability, lubricity and resistance to yellowing.—EMERY INDUSTRIES, INC., Dept. 5, Carew Tower, Cincinnati 2, Ohio.

**720. INDUSTRIAL OIL**—Bulletin catalogs all of Swift's Industrial Oil and Fatty Acid products. Included are detailed specifications, shipping information and suggested usage on products of animal, vegetable and marine sources.—SWIFT & COMPANY, Industrial Oil Department, 1800 165th Street, Hammond, Indiana.

**721. SURFAX 1288**—Product data sheet explains this useful wetting and rewetting agent. Described as being water soluble at all temperatures and is a highly concentrated, economical surface active agent. —E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

**722. RESINS & LATICES** — Booklet describes chemigum, latex, pliolite latex, pliovia latex, pliovic AO and their applications. Gives properties of Goodyear Latices.—GOODYEAR CHEMICAL DIV., 1144 East Market St., Akron 16, Ohio.

**723. CHEMICAL CATALOG**—Features detergents, wetting agents, emulsifiers, brighteners, sequestrants, dyeing assistants with chemical composition, properties and application.—ANTARA CHEMICALS DIV., GENERAL ANILINE & FILM CORP., 435 Hudson St., New York 14, N. Y.

**727. COLOR PRINCIPLES**—Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. —SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

**729. STATIC AND STATIC CONTROL**—Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them.—DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

**733. WOOL OILS**—Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil.—PROCTOR & GAMBLE DIST. CO., Cincinnati, Ohio.

**734. BLEACHING WITH PEROXYGEN CHEMICALS**—Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available.—BUFFALO ELECTRO-CHEMICAL CO., INC., Station B, Buffalo 7, New York.

**745. RAPIDASE FOR DESIZING**—Bulletin explaining in detail the properties and characteristics of Rapidase.—WALLERSTEIN CO., INC., 130 Madison Avenue, New York 16, N. Y.

**746. INDUSTRIAL CHEMICALS**—24-page booklet listing alphabetically Harshaw industrial chemicals and applications.—THE HARSHAW CHEMICAL COMPANY, 1945 East 97th Street, Cleveland, Ohio.

**749. WATER SOLUBLE GUMS** — Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject.—JACQUES WOLF & CO., Passaic, N. J.

**753. TRITON X-100**—Booklet available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out.—ROHM & HAAS COMPANY, Philadelphia 5, Pa.

**757. THE CHEMISTRY OF CYNANURIC CHLORIDE**—Very comprehensive technical text by American Cyanamid Co. Gives Physical Properties, Reaction Chart, Chemical Properties, Potential Applications, Toxicity, Table of Alcohol Reactions, Table of Amine and Related Compound Reactions.—AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.


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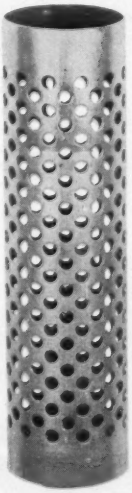

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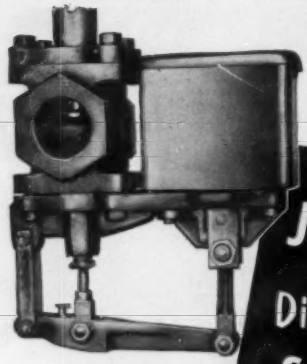

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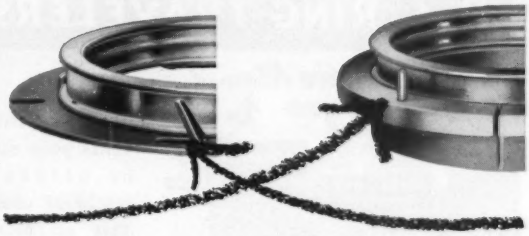

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**769. SURFACE TENSION DEPRESSANT** — The booklet, "Mercerizing and Alkamerce—The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing.—HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

**774. ROYCE TEXTILE CHEMICALS**—This booklet briefly describes the leading Royce products for textile processing printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

### KNITTING . . .

**800. SYNTHANE TEXTILE PARTS**—Folder on laminated bobbins, pirns, headless package tubes, hosiery turning and examining forms, sizing bobbins, etc.—SYNTHANE CORP., 9 River Road, Oaks, Pa.

**801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE**—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

**808. REINER WARPER**—Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog.—ROBERT REINER, INC., Weehawken, N. J.

**818. MILTON LIGHT METAL BEAMS FOR EVERY APPLICATION** — Catalog 45-A describing Light Metal Tricot Beams made in standard and special sizes plus Special Purpose Light Metal Textile Equipment.—MILTON MACHINE WORKS, INC., Milton, Pa.

**823. VARIABLE STRIPER**—Booklet available describing Supreme's complete line of automatic variable stripers and pattern placer machines.—SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., Brooklyn 6, N. Y.

**828. THE KIDDE KNITTER**—Bulletin describing the newest in Raschel-type warp knitting machine and higher production attained with it.—KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

### SEWING MACHINES . . .

**924. BUTT-TACKING SEWING MACHINE**—Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking.—THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

**925. SEWING MACHINES**—The Lock-Stitch bulletin No. 258 describes and illustrates new, high speed, single needle Union Special Lock-Stitch machine for general purpose industrial sewing operations.—UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Illinois.

**1003. CASTERS AND WHEELS**—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach 4, Calif.

**1006. LANE CANVAS BASKETS**—16-page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

**1007. OVERHEAD HANDLING EQUIPMENT** — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem.—THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

**1008. CASTERS AND WHEELS** — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters.—THE COLSON CORP., Elyria, Ohio.

**1010. CONVEYOR KEY BOOK**—A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN CO., 1115 Franklin St., Louisville, Ky.

### MATERIALS HANDLING . . .

**1011. TEXTILE TRUCKS**—Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

**1017. "HOW TO OPERATE A LIFT TRUCK"**—Booklet gives information about the operation of a lift truck, preventive maintenance, safety and basic materials handling.—HYSTER COMPANY, Portland 8, Oregon.

**1030. CDF RECEPTACLES**—This 32-page catalog R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item.—CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

### MISCELLANEOUS . . .

**1102. BALING PRESSES**—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

**1103. UNBRAKO SCREWS** — Illustrated 16-page booklet No. 877 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

**1111. BRUSHES**—A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

**1112. THE RANDOM WEB PROCESS**—Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. — CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

**1113. MACHINE KNIVES** — Catalog and price sheets describing this company's line of knives for use on textile machinery.—TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

**1115. TEXTILE WRAPPING MACHINES**—Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made.—HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

**1122. BALING PRESSES**—Bulletins available describing this company's line of motor-driven and hydraulic baling presses for finished goods, textile fibers, wool, and waste of all kinds.—LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wis.

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## Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 44)

**ing Louis,** Irwill Knitwear Corp.; **David Aronow,** Lee Beachwear; and **Morris London,** Commodore Knitting Mills.

**Harold W. Whitcomb,** president and a director of Fieldcrest Mills, Inc., of Spray, N. C., has been chosen the "Man of the Year" by the North Carolina State College Chapter of Phi Psi, national honorary textile fraternity.

Cone Mills Corp. has transferred **Fred Ziprik** from personnel assistant at the White Oak plant in Greensboro, N. C., to training in production at the company's Gibsonville, N C., plant.

## Obituaries

**C. J. Ashmore,** 64, vice-president and general manager of Gunter-Ashmore Co., Concord, N. C.

**Charles J. Carlos,** president and treasurer of Globe Narrow Fabrics Co., Pawtucket, R. I.

**Robert B. Bailey,** 36, U. S. Department of Agriculture cotton technologist at Clemson (S. C.) College.

**J. R. Copland, Sr.,** 80, founder and president of Copland Fabrics, Inc., Copland Converting & Finishing Co., and Copland Fowler Industries, Hopedale, N. C.

**Randolph Crompton,** 80, retired loom manufacturer and inventor.

**Harry Edelman,** partner in Cashmere Knitters and Nussbaum Knitters, Inc., Brooklyn, N. Y.

**Arthur Grossman,** 59, vice-president of Anderson Hosiery Co., Clinton, S. C.

**Max Hall Hayes,** 62, superintendent of Hudson Cotton Manufacturing Co., Lenoir, N. C.

**Arthur Jarrett,** 58, general manager of Highland Park Manufacturing Co., Charlotte, N. C.

**Edwin P. Johnstone,** 49, technical manager of the American Association of Textile Chemists and Colorists research laboratories at Lowell (Mass.) Technological Institute.

**Nathan R. Kline,** 84, owner of Nathan R. Kline Co., Philadelphia, and secretary of Unique Knitting Co.

**William H. Lister,** 47, president and treasurer of Colored Worsted Mills, Providence, R. I.

**Charles H. Masland, II,** 60, vice-president of C. H. Masland & Sons, Carlisle, Pa.

**John B. Merritt,** 67, past-president of Southern Silk Mills Co., Kernersville, N. C.

**Albert F. Mitchell,** 89, retired credit manager of the National Association of Hosiery Manufacturers.

**Herbert S. Munro,** retired secretary-treasurer of Arodoss Worsted Co.

**Fred T. Nagle,** retired vice-president and superintendent of Chipman Knitting Mills, West Easton, Pa.

**James R. Redmond,** 40, vice-president of Interchemical Corp.'s Textile Colors Division, Hawthorne, N. J.

**Jerry H. Reeves, Jr.,** executive of the Westinghouse Electric Corp., in Greensboro, N. C.

**Maj. Gen. Irving J. Phillipson,** 73, former director of industrial relations for Botany Mills.

**J. W. Ridenhour,** 71, owner and operator of J. W. Ridenhour Textile Machinery Co., Charlotte, N. C.

**W. A. Roberts,** 57, president of Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

**Abraham Schottland,** 89, retired organizer of Abe Schottland Silk Manufacturers, Paterson, N. J.

**Charles Seidman,** 83, co-founder of Seidman's Sons, Philadelphia, Pa.

**W. H. Shamhart,** retired Rockwood, Tenn., hosiery mill executive.

**Rudolph C. Singer,** secretary of Bamberger-Reinthal Co., Cleveland, Ohio.

**H. A. Spangler,** former partner in Powell Knitting Co., Philadelphia, Pa.

**Edward A. Stein,** former vice-president of the Columbia Knitting Co., Milwaukee, Wis.

**Edgar W. Stewart,** 62, president of Catalina division of Julius Kayser & Co.

**Kerney C. Stone,** secretary-treasurer of Louise Knitting Mills, Durham, N. C.


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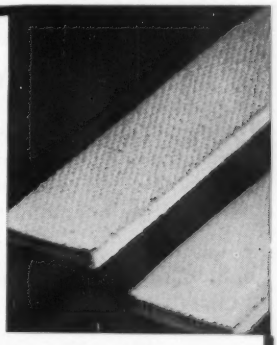

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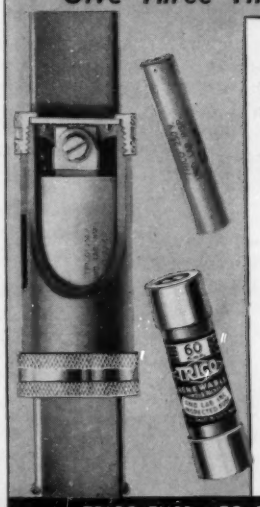


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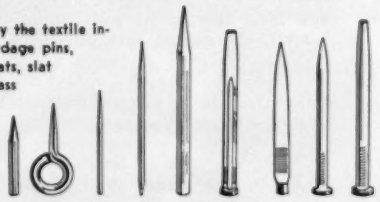

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**by BAGSHAW**

# What the TEXTILE MILLS are doing

Four generations of operation under "Fathers and Sons" is the record of **The Adler Company,** Cincinnati manufacturer of hosiery and stockinettes, as it enters its ninetieth anniversary year. Thomas C. Adler, president of the company since 1941, is a great grandson of Bernard Adler, founder of the firm in 1865. When Bernard Adler, a German weaver, came to Cincinnati to establish his trade in the new world, he bought the Hamilton County (Ohio) insane asylum and in 1865 converted it into a textile mill. The company then employed 11 persons; now Adler has 265 employees. Total production is 20 times greater than in 1865. First in the field to advertise, sell, and guarantee the size of an all-wool sock in the middle 1940's, Adler continues to give heavy promotion to its interesting hosiery developments.

**Aleo Manufacturing Co.,** Rockingham, N. C., is planning to start a $500,000 modernization program. New card room and spinning room equipment and an air change system for the spinning room are being considered.

514 houses in Gastonia and Mt. Holly, N. C., have been sold by **American and Efird Mills, Inc.**

**American Silk Spinning Co.,** Providence, R. I., has moved its New York office to 112 West 34th Street.

Industrial Products of America and Braka & Co. have purchased **R. W. Bates Piece Dye Works,** Garnerville, N. Y. All machinery and equipment will be sold.

Controlling interest in a German hosiery mill built since World War II is reported to have been purchased by **Berkshire Knitting Mills,** Reading, Pa. Called **Silkona Strumpffabrik** G.m.b.H., the mill is located in Pforzheim and produces men's and women's hosiery. However, modernization plans call for discontinuance of manufacture of men's hose, making possible the production of a complete line of women's full-fashioned hosiery to include finer deniers and gauges.

**Blackwelder Textile Co.,** Cherryville, N. C., has completed a 10,000 sq ft addition to their present building to house new equipment to meet the demands for the new type stretch nylon and other fiber combinations which they have developed. Machinery for manufacturing Fluff-lon has also been installed.

**Robert Bruce** is the new legally adopted name of the **Robert Bruce Knitwear Co.,** Philadelphia, Pa.

A central cotton buying agency with headquarters at Cramerton, N. C., has been formed by **Burlington Industries, Inc.,** to handle the overall purchase of raw cotton for Burlington and Pacific Mills. The agency is directed by William A. Julian, and Ben P. Whitney is assistant director. * * * Burlington has plans for the expenditure of several million dollars to modernize the Mooresville Mills, which were recently acquired. The five mills at Mooresville and one mill at Statesville are being operated as a separate unit.

A new addition just completed by the **Carolina Underwear Co., Inc.,** Thomasville, N. C., contains 18,000 sq ft of floor space and houses the Forsyth Division which will utilize the services of approximately 150 operatives.

**Chalmers Knitting Co.,** Amsterdam, N. Y., has added twelve new high speed 64-feed circular knitting machines to increase its production of men's T-shirts and briefs, and women's and children's knit underwear.

**Callaway Mills Co.,** LaGrange, Ga., has replaced a "truck line" with a conveyor belt. For about 15 years a tractor and two trailers were utilized at the Elm City plant to haul towels from the sewing to the shipping room. Progress and efficiency of operation led to the installation of a conveyor which is approximately 638 feet long, requiring about 1300 feet of belt. Now the truck and trailers


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The Collins C/B Novelty Twister is considered TWO TWISTERS in ONE because each side of the frame can be run independently of the other side in regard to direction of twist, speed and yarn construction. This tape-driven dual-drive arrangement affords unlimited flexibility for the production of novelty and ordinary ply yarns.
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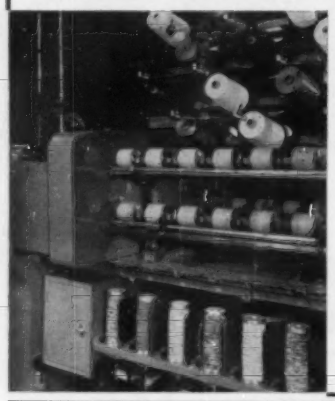

The Collins C/B Novelty Twister was a star performer at Atlantic City and Greenville Shows. Today, mills are daily acclaiming its outstanding cost cutting performance and wide versatility. THERE IS A COLLINS TWISTER FOR EVERY PLY YARN CONSTRUCTION.

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Builders of Novelty, Ply, Big Ring, Beam, Cabling, Wet, Trap, Rayon, Paper, Glass, Sample and Special Twisters for all yarns.

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## What the TEXTILE MILLS are doing

can be used elsewhere, and the packaged towels get a 17-minute ride "via conveyor" from sewing to shipping.

A second floor is being added to the existing building of the **Cline Hosiery Co.,** Spruce Pine, N. C., to provide a total of 12,000 sq ft of floor space.

**Collins & Aikman Corporation,** fine upholstery fabrics, has enlarged its production of tufted products with its recent purchase of the Mayfair Chenille Company, Inc., of Calhoun, Ga. Having an annual production capacity of 2,500,000 yards, the Georgia plant will be used as a tufting plant for the manufacture of carpets for domestic and industrial use, including carpeting for automobiles, buses, trains, and airplanes. William H. Sparks, former owner of the company, will serve as general manager of Collins & Aikman's new tufting division. The company's name will be retained, but the plant will operate as Collins & Aikman's seventh division.

**Consolidated Textile Co., Inc.,** New York, N. Y., has installed equipment for mercerizing and discharge printing at the Windsor Print Works in North Adams, Mass., and discharge printing and soaping equipment have been installed at the Taunton, Mass., plant. * * * The Freedoms Foundation at Valley Forge, Pa., has presented its George Washington Honor Medal to Consolidated because its employee publication, "Consolidated Textile News," helped "to bring about a better understanding of the American Way of Life during 1954."

A newly incorporated mill for raw stock dyeing and production of synthetic yarns in Attalla, Ala., is the **Coosa Yarn Mills, Inc.** Irving Philipson is president; Henry Culp, vice-president; and E. B. Tucker, secretary-treasurer.

A group life insurance policy has been made available at **Dan River Mills,** Danville, Va., for all hourly operatives. It provides a $1,000 payment at death. * * * Plans for an expenditure of about $2,750,000 on capital improvements during the current year have been announced. The investment will be for improved spinning, new and better spooling and winding equipment, and for new

beam and package dyeing machinery.

**Elwood Webbing Co.,** Paterson, N. J., successor to Longlife Elastic Manufacturing Co., has increased the scope of its operations to include production of a plastic saran webbing and a full line of suspender web designs.

Machinery and equipment of **Empire Worsted Mills,** Jamestown, N. Y., were recently sold at public auction.

Development of a new non-woven material for a number of already known industrial uses has been announced by **The Felters Company** of Boston, Mass. The new material, which the company calls AllFab, is made of textile fibers with a resin binder under a patented process. It is particularly adaptable for use as a filler for vinyl coated material in the interior of autos because of the material's "loft" and its susceptibility to electronic stitching. Other uses of the new material include: a spacer, seal against dirt and dust, bumper to absorb shock, reservoir or wick for grease and oil, weather proofing and a wiping material.

In April of this year **Gaffney** (S. C.) **Manufacturing Co.** held a silver anniversary celebration during which awards were presented to those employees who had given 25 years of continuous service, and also to those who had served five, ten, fifteen, and twenty years.

I. W. Goans is now sole owner of the **Goans Hosiery Mills,** Claremont, N. C., according to an announcement.

Capacity of **Springs Cotton Mills' Grace Bleachery** has been increased to 10,000,000 yards of cloth per week. A new dye range, a mercerizing range, a plisse range, a new tenter frame, and 75 new sewing machines have been added.

The Keene (N. H.) Silk Fiber Mill property has been purchased by the **Hargo Woolen Mills, Inc.,** New Bedford, Mass., which plans to move all its facilities to Keene.

**Indian Head Mills, Inc.,** has purchased 85 new 60-inch looms for its weaving mill in Cordova, Ala.

**Southbridge** (Mass.) **Finishing Co.** has sold its printing and finishing machinery, the removal of which will enable expansion of its plastic division.

**Ludlow** (Mass.) **Manufacturing & Sales Co.** has moved the Boston office and the research and development operations, formerly housed in the mill at Ludlow, Mass., to a new air-conditioned structure in Needham, Mass.

**N & W Industries' Magnolia** (Ark.) **Cotton Mill** has closed down "because of financial losses in the past three years."

An extension is being built to weave room of the **Maverick Mills'** White Horse Mill, Greenville, S. C. 400 additional looms will be installed in the 30,000 sq ft structure.

**Oldtown Lace Works,** North Attleboro, Mass., formerly a partnership of Gordon Pepper and Fred Wharton, has now been incorporated with Mr. Wharton as president and treasurer. Mr. Pepper has started a new plant known as **County Lace Co., Inc.,** on County Street in South Attleboro. Gordon Pepper is president; George Pepper, treasurer; and Lillie Pepper, secretary.

Seven women and three men on the staffs of hospitals throughout the United States have won scholarships offered by **Pacific Mills** for the hospital housekeeping course given this spring at Michigan State College, East Lansing, Michigan. The course is sponsored by Michigan State in cooperation with the American Hospital Association.

**Plymouth Dye Co., Inc.** is the new name under which the plant of the Plymouth Dye Works, Inc., Paterson, N. J., is being operated. Leo A. Bohl is president of the new company; Alvin Rosenberg, vice-president; and Al Gellene, Jr., secretary-treasurer.

**Red Top Dyeing Corp.,** Woonsocket, R. I., is a new wool and synthetic top dyeing plant. Wilfred Laferriere, formerly superintendent of dyeing for the French Worsted Co., is president and treasurer.

Lillian and Norman Schlossberg have formed **Ronnette Knitwear, Inc.,** in Brooklyn, N. Y., for the manufacture of classic and novelty interlock sweaters.

Three four-section, full-fashioned sweater knitting machines have been purchased by **Roosevelt Mills, Inc.,** Manchester, Conn.

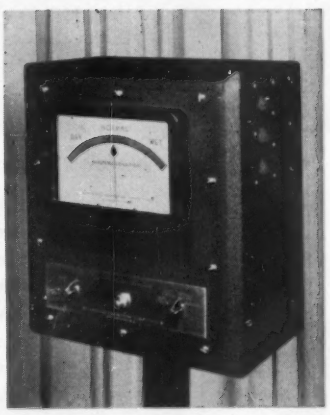
1955 marks the fiftieth anniversary of **Rugby Knitting Mills,** Buffalo, N.


*A Proved Performer*

ON SLASHERS—TENTERS
DRYERS—PICKERS

**The MOISTURE MONITOR**

***accurately indicates moisture content***



Low cost MOISTURE MONITOR shows at a glance any deviation from your set normal content—makes possible greater uniformity of quality and increases in production up to 30%. Recording and control equipment, for use on slashers and finishing machines, available for direct connection with The MOISTURE MONITOR. Used profitably throughout America and in many foreign countries.

**SHOWS TARE WEIGHT OF LAPS**

ON PICKER—with face calibrated in pounds of tare The MOISTURE MONITOR accurately indicates tare weight based on moisture content of cotton itself, contributes to extremely high uniformity of laps. Write or wire for particulars.

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## What the TEXTILE MILLS are doing

Y. This company was founded in 1905 by three brothers—David B., Siegfried, and Ernest Levi—as jobbers of men's underwear and notions. Today sweaters, swimwear, and other knitted garments of wool and synthetics are produced.

The historic Sloatsburg, N. Y., mill building, originally constructed in 1815 by Samuel Sloat who gave his name to the town, was totally destroyed by fire recently. The structure had been occupied by the **Ramapo Piece Dye Works** and by the **Schwartz Yarn Co.** Julius Rutberg, president of Ramapo, says he hopes to erect a new mill structure within the next six to eight months.

**Spa Yarn Co.,** Ballston Spa, N. Y., was liquidated recently at public auction.

**Sportnit Hosiery Mill,** Enfield, N. C., is a company recently formed by Ira D. Wood, Jr., R. E. Shervette, Jr., and Bettie W. Wood.

**Strong Hewat & Co.,** North Adams, Mass., is moving its New York office to 112 West 34th Street.

Sixteen new 60 gauge full-fashioned knitting machines have been installed at **Stroudsburg** (Pa.) **Hosiery Mills.**

The winners of the trophies given by the Alabama Cotton Manufacturers Association to the mills with outstanding safety records for the preceding year were **Tallassee** (Ala.) **Mills** and Coosa plant of **Standard-Coosa-Thatcher Co.** in Piedmont, Ala.

**Tenn-Rock Hosiery Co.** is expanding its operations at McMinnville, Tenn., with intent to double the output of hosiery there and eventually locate all of its facilities there. Sales and production control units have already been moved to McMinnville from Rockford, Ill. A 10,000 sq ft building is under construction.

**Textron, Inc.,** has donated a four-acre plot of land and $2,500 cash to Williamston, S. C., to be used for an outdoor recreation area.

Edward Krock, of Edward Krock Industries, Inc., Worcester, Mass., and Samuel Mencoff, textile specialist, have purchased ten mills from Textron American: They are: **Webster** (Mass.) **Mill; Wood Mill,** Lawrence, Mass.; **Bradford Mill,** Louisville, Ky., **Mascoma Mill,** Lebanon, N. H.; **Arden Mill,** Fitchburg, Mass.; **Ayer Mill,** Lawrence, Mass.; **Brown Mills,** Dover-Foxcroft, Me., **Fulton** (N. Y.) **Mill; Globe Mill,** Utica, N. Y.; **Manton Mill,** Providence, R. I.; and **Sawyer Mill,** Dover, N. H. Effort will be made to sell the plants as units so that they can continue or resume operation, the announcement indicated.

**United Elastic Corp.,** Easthampton, Mass., recently elected the following new officers: Frank P. Conant, assistant treasurer; and Orville Hollingsworth, clerk and assistant sales manager. A director, S. Clark Lilley, was named assistant to the president, and Roy K. Mearns, Jr., was made assistant comptroller.

A new department to market grey goods to the converting field has been established by **United States Rubber Co.,** and will be headed by J. H. Purdy, Jr., merchandising manager of the textile division's consumer fabrics section.

**Van Raalte Co.,** New York, N. Y., has purchased the ladies' seamless hosiery mill, **Ridge Hosiery Co.,** Quakerstown, Pa., and plans to continue operating it.

**Wiscasset Mills Co.,** Albemarle, N. C., has contracted for construction of a new addition for the expansion of its processing and shipping departments. The boarding room was recently enlarged, and several new knitting machines were installed.

**Yarbrough Hosiery Mill,** Lexington, N. C., was damaged by fire recently, suffering loss estimated at $40,000.

**Ya-Jo, Inc.,** is a new specialty fiber carding concern now operating in a part of the former Lonsdale mill on Martin Street in Berkely, R. I. Joseph Brown is president, with Alfred Dainef serving as superintendent.

Full-fashioned sweater knitting machines and circular outerwear knitting machines are to be installed in a new 38,400 sq ft building now being constructed adjoining the **Catalina, Inc.,** plant in Whittier, Calif. As soon as this plant is placed in operation, knitting at Catalina's Los


HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

*Metal Protection for Wood Turnings*

J. N. ANDERSON, *Treas.*

LAWRENCE, MASS., U.S.A.

Angeles plant will be discontinued. The space vacated by the transfer of knitting machinery from Los Angeles will be used for general offices, warehouses, and shipping. When the new plant at Whittier is up to full production, output of that division will be doubled, it is anticipated.

Before the end of this year, **Claussner Hosiery Co.** expects to have a seamless hosiery plant in operation at its Paducah, Ky., plant. Plans call for the employment of approximately 100 persons in the beginning, with this number to be increased to 200 by the end of 1956. Contract has already been awarded for a 9,000 sq ft extension to the Paducah plant, and another contract will be let later on for a 7,000 sq ft extension. 300 knitting machines will be installed in the new addition.

To show how the products of **Clinton and Lydia Cotton Mills** in Clinton, S. C., enter the daily lives of the employees both at home and in industry, management of these mills arranged for a presentation of the end products made from cloth produced by the mills to be given at the local high school auditorium. About 80 people took part in the show which was entitled "Around the Clock with Clinton-Lydia Cloth." Added attractions included a miniature loom in operation and specimens of Japanese and French cloth. * * * Fishing clubs have been formed at both the Clinton and Lydia mills. Purpose of these clubs is to help create good relations, protect game and wild life, as well as the fisherman and the hunter. Any employee of the two mills, along with his immediate family, is eligible for membership in the club. A fishing contest, regular meetings, and suppers at the end of each fishing season are included in club plans. * * * Indicative of the interest of employees in the Clinton-Lydia Safety Ice-Melting Contest held recently is the fact that more than 500 entries containing many good suggestions for better and safer working habits were received. This is how the contest was conducted: A 300-pound block of ice was placed on a table in front of each mill, along with a poster bearing contest rules. A requirement for entering the contest was that a safety suggestion must be included on the entry blank along with each employee's guess as to when the block of ice would melt. First, second, and third prizes were awarded the three employees guessing the closest to the actual time required for the melting to take place.

A new throwing plant is being established at Eddington, Pa., by **Irving A. Tannenbaum** of Philadelphia, Pa. The firm has purchased **Daly Throwing Co.** in Reading, Pa., which, according to the announcement, will be dissolved.

**Fieldcrest Mills, Inc.,** will discontinue the manufacture of hosiery at Fieldale, Va., when the present production runs out. The hosiery operation has been unprofitable for Fieldcrest for several years and would have required a considerable investment to be made competitive, H. W. Whitcomb, president of Fieldcrest, said. James Jamison Co., New York, N. Y., has purchased the inventory and rights to the LaFrance brand name and will continue to sell hosiery under this name. * * * The Hosiery, Electric Blanket, and Synthetic Fabrics mills, along with the Central warehouse, are in line to receive the National Safety Council "Award of Merit" in recognition of their outstanding work in accident prevention.

At the **Dixianna Mill,** a division of the Mohawk Carpet Co. of Amsterdam, N. Y., in Dillon, S. C., a 40,000 sq ft addition for expanded operations is being constructed.

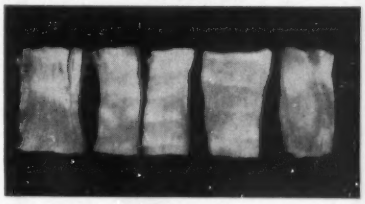
The **Mount Hope Finishing Co.,** of Butner, N. C., is in the process of setting up a dyeing and finishing plant for synthetic fabrics in Henderson, N. C. Property formerly occupied by Corbitt Manufacturing Co. has been purchased by Mount Hope and is being modified to accommodate the processing machinery. It is expected that about 200 persons will be employed at the Henderson plant when it is in full operation.

The former **Pembroke Mill of Textron, Inc.,** in Suncook, N. H., has been purchased by Max Kahn, president and treasurer of Amoskeag-Lawrence Mills, Inc., Manchester, N. H. According to the announcement, the mill will be operated under the name of **Suncook Manufacturing Co.**

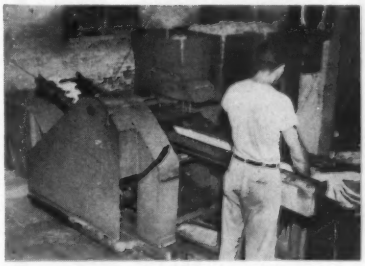
Greater warmth, longer wear, better washing qualities, less shedding, and improved appearance are advantages claimed by **Pepperell Manufacturing Co.** for its new blended blankets featuring the Marvelok Weave (Patent Applied For). According to the announcement, this special weave locks the fibers together.

Contract for a new brick building has been let by **Shuford Mills, Inc.,** Hickory, N. C., to house its plastics department. Adjoining the main office of the company, it will contain approximately 78,000 sq ft.


CUT SYNTHETIC FIBRES TO PRECISE STAPLE LENGTHS



USE THE TAYLOR-STILES STAPLE CUTTER



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We also make thread waste and rag cutters.

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Call MILTON for dependable BEAMS

Light Metal featuring continuous welded construction

NYLON & RUBBER YARN BEAMS

FORGED HEADS
RIGID BARRELS

Forged heat-treated aluminum alloy heads and extra heavy wall barrels designed to withstand extreme pressures of monofilament; fine denier; low-turn nylon; and rubber yarns. 13¾" and 21" diameter heads.

SECTION BEAMS

Adaptable to all makes of warpers. Cast aluminum alloy heads and extruded aluminum barrels cannot shrink, swell, splinter or distort.

STEEL BARREL
WARP BEAMS
for BROAD, NARROW FABRIC, RIBBON, VELVET AND CARPET LOOMS

BROADLOOM BEAMS

for C & K and Draper Looms

Shown above is Milton's stud construction (also made with cast iron hubs).

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Adjustable head with fixed shaft, or fixed head with removable shaft.

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# SUPPLIERS News

## WHAT THEY ARE DOING

The installation of special facilities which can produce a wide range of chemical compounds and embody numerous different processes, has been announced by **American Cyanamid Company.** The facilities are divided between the Company's plants at Bound Brook and Warners, N. J. The Warners installation includes general manufacturing facilities and at Bound Brook is located equipment for hydrogenation and other high pressure reactions. Ready for production in the new facilities are more than twenty derivatives of acrylonitrile, which is being manufactured in Cyanamid's new plant at Fortier, Louisiana, as well as a number of other new products.

**American Viscose Corp.** will expand its rayon staple output by 90 million pounds a year, according to Harry L. Dalton, vice-president in charge of sales. The increased production will go into effect at the Corporation's Front Royal, Va., and Parkersburg, West Va., plants and will be available in 1956. With the added capacity at Front Royal and the 50 million pounds of annual carpet staple production planned for Parkersburg, Avisco's total rayon staple output will be more than 300 million pounds.

A. von Gontard, vice-president and director of sales and advertising of **Anheuser-Busch, Inc.,** has been elected vice-chairman of the board of directors and chairman of its executive committee. Three other vice-presidents were elected. They are: Arthur E. Weber, general manager of the yeast, malt, and corn products division since 1951, was elected vice-president in charge of the division. Hugo Waninger, traffic manager since 1950, was elected vice-president in charge of traffic. Walter T. Smith, director of purchasing since 1952, was elected vice-president in charge of purchasing.

W. Chester Cobb, commercial vice-president, was recently elected president of **Arnold, Hoffman & Co., Inc.,** succeeding Edwin H. Arnold, who had held the post of president since 1937. Mr. Arnold will become chairman of the board of directors. Eric R. Herbertson was named to succeed Mr. Cobb. Harry G. Bruns, formerly treasurer, was named financial vice-president, and Dr. Firmin Reed, formerly director of research, was elected technical vice-president. After 33 years with the firm, Thomas H. Roberts, technical vice-president, is retiring.

**Becco Chemical Division,** Food Machinery and Chemical Corporation, announces that Eric A. Hansen, manager of the New York territory of the company, has retired to devote full time to his own business enterprise in Florida. Albert L. Shutts, who was Mr. Hansen's assistant, is now in full charge of sales and customer service operations in the New York territory. He will be assisted by Edward M. Roth, Jr., who is being transferred from the Buffalo home office to the New York City office. * * * Becco has announced the appointment of Bernard K. Easton as manager, textile research and development department. Mr. Easton will be in full charge of a research and development group concerned with textile wet processing.

Appointment of Waldo F. Blievernicht to the position of field engineer has been announced by **The Bellows Co.,** Akron, Ohio. Mr. Blievernicht, who is assigned to the Georgia-South

**Mr. Blievernicht**

Carolina territory, is responsible for sales and service of the entire line of "Controlled-Air-Power" devices manufactured by the company.

**Blackman-Uhler Co.** announces that Walter E. (Bud) Eskew has joined that company as technical director. During the past nine years Mr. Eskew was an officer of the Piedmont Chemical Corp., and also acted as a technical consultant to the Blackman-Uhler Company.

Ceramic Fiber Project has been established as a new operating unit of the **Carborundum Co.** Otto R. Stach has been appointed project manager. The Ceramic Fiber Project will develop production techniques and applications of Fiberfrax ceramic fibers.

George W. Ewald, formerly of the development department of **Celanese Corp. of America,** has been named manager of the newly created industrial sales department of the textile division of the company. At the same time A. S. Dempewolff, previously manager of the market development department, was named assistant to the vice-president and general manager of the division.

New sales manager of the **Cleveland Instrument Co.** is David M. Gaskill, who recently resigned as sales manager of the textile division of Brush Electronics Co.

Paul S. Monty and W. A. Norman have joined the technical sales service division of **The Chemstrand Corp.** Before joining The Chemstrand Corp. Mr. Monty was foreman of finishing at Galey Mill Corporation, Greenville, S. C. Mr. Norman has been with The Chemstrand Corp. since 1953 as an equipment development engineer at the Chemstrand nylon plant in Pensacola, Fla. Mr. Monty and Mr. Norman will be located in the Decatur, Ala., headquarters of the corporation.

**Cincinnati Chemical Works, Inc.,** Cincinnati, Ohio, has purchased the vat dye plant recently built and put into operation at Toms River, N. J., by Ciba States Limited. Cincinnati Chemical Works, Inc., has been owned by the three Swiss dyestuffs manufacturers, Ciba Limited, J. R. Geigy, S. A., and Sandoz, Limited, Ciba having the controlling interest. The products of the factory are supplied to the American subsidiaries of the Swiss firms.

The **W. D. Dodenhoff Co.** has appointed J. C. Whitehurst as special sales engineer, with headquarters at the home office in Greenville, S. C. Mr. Whitehurst was formerly a sales engineer with the Medley Manufacturing Co.

**The Dobeckmun Co.** announces the establishment of a Texas district sales office with headquarters in Dallas. Manager of the new office is Harry Spore, long associated with the A. T. Powell Co., who has represented Dobeckmun in Texas for over twenty years. He will be assisted by Edwin Horner, promoted from the packaging division sales correspondence staff, where he has been for the past two years. The Texas district

**Mr. Miller**

operation will be under the general supervision of Barney Kinter, division sales manager with offices in St. Louis. * * * The company has appointed John W. Miller to the position of assistant southern divisional sales manager, with headquarters in Atlanta. Mr. Miller will represent both the Packaging and Industrial Divisions.

To further the markets for its Estron acetate yarn and fiber, **Eastman Chemical Products, Inc.,** a subsidiary of Eastman Kodak Co., has launched a promotion program under its registered trade-mark "Estrel" which will be used by its customers to designate a class of fabrics containing a minimum of 50% of Estron yarn or fiber, the Estron portion of which is dyed with Eastofix dyes (see announcement in New Equipment and Materials Section of this issue, page 210). If the fabric should

### Stowe-Woodward Opens Griffin, Georgia, Plant

Stowe-Woodward, Inc., with headquarters in Newton Upper Falls, Mass., has opened its newest rubber roll plant at Griffin, Ga., to serve the paper and textile industries of the South. A similar new plant dedication was held last June at Neenah, Wis.

The 28,000 sq ft brick and steel construction is located on a 25 acre plot, and is served by two railroads and adequate truck-trailer facilities so that rolls may be delivered from the mills to the inside of the plant.

Facilities for the precision covering and finishing of all types and sizes of rolls are available. One finishing lathe is set up to do such sensitive work that it is operated by an electric eye.

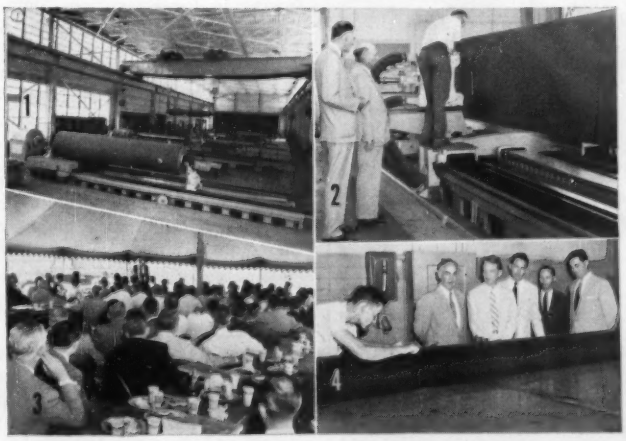
Photo 1 here shows the "big bay" at the new Griffin plant.

Photos 2, 3, and 4 were also made during the open house celebration on May 4.

Photo 2: E. S. Hensley and S. D. Lyman of Pacific Mills, Lyman, S. C., watch a grinder man at work.

Photo 3: Visitors listen to Herman Talmadge, former governor of Georgia, following a southern style barbecue.

Photo 4: Observing the making of a rubber-covered roll are: (left to right) Seaton Bailey; J. M. Cheatham, president, and J. H. Cheatham, vice-president of Dundee Mills, Inc., Griffin; C. T. Parker; and Clarence Morganstern, Stowe-Woodward sales engineer.



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**& E-Z ROLL WHEELS**

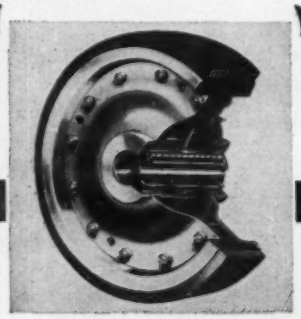
are built for smoother operation ...less maintenance

**RUBBER TREADS . . .** a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

**RUST-PROOFED . .** by the Udylite process, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

**STRING GUARDS . . .** Even though string and ravelings may wind around the hub, these string guards insure easy rolling at all times.

**LUBRICATION . .** all swivel and wheel bearings are factory packed with a high quality grease that "stands up" under attack by heat and water. Zerk fittings are provided for quick grease-gun lubrication.



*Free Manual*

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## SUPPLIERS News
WHAT THEY ARE DOING

be a blend, the nonacetate portion must have fastness characteristics equal to those obtained on the Eastofix dyed Estron portion of the fabric. It is the ultimate aim to establish the word Estrel as a class name for all-acetate or acetate rayon blends that will signify to the consumer outstanding qualities of wash fastness and washability. Fabrics made by any Eastman customer which meet this definition will be eligible for participation in the program.

Robert E. Amidon has been named sales representative by the **Graton & Knight Co.,** for Virginia, West Virginia, and western Pennsylvania. He will operate out of Pittsburgh.

**Mr. Amidon**

Ralph E. White of Anderson, Indiana, was recently elected a vice-president of the **Container Corp. of America.** He had been division general manager in charge of the Anderson, Cincinnati, and Cleveland properties.

**Crompton & Knowles Loom Works,** Worcester, Mass., has elected the following to the Executive Committee: F. W. Howe, Jr.; R. S. Frost; Albert Palmer; O. V. Payne; and H. R. Wing. The development board members are: F. W. Howe, Jr.; Albert Palmer, O. V. Payne; H. R. Wing; R. G. Turner; and W. H. Wakefield.

**Hinde & Dauch,** manufacturer of corrugated boxes, have named Allen N. Holt district sales manager for the company's new plant at Gastonia, N. C.

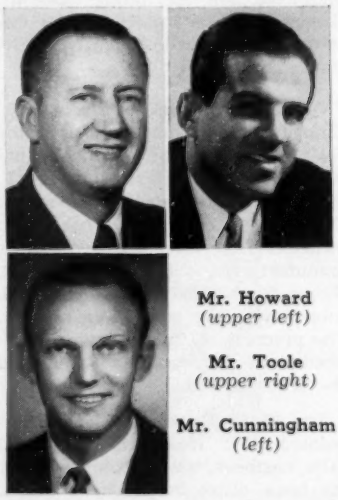
New appointments of **The Foxboro Co.** include: C. C. Fuller as vice-president, H. O. Ehrisman as general sales manager; and J. J. Burnett as field sales manager. Vice-president C. E. Sullivan, who has retired from active sales direction, will serve in a consulting capacity with the sales organization.

Norman F. Greenway, senior vice-president in charge of the folding cartons division of **Robert Gair Co., Inc.,** has been elected president of the Folding Paper Box Association of America. * * * Mortimer J. Williams has been appointed products development manager for Gair's boxboard division. * * * The company has opened a new folding carton sales office in Kansas City, Mo., located at 6107 Troost Avenue, under the supervision of James Howry.

Two new directors of **Howard Brothers Mfg. Co.** recently were elected: Arnold W. Englund, general manager, and Jefferson E. Williams, president and treasurer, Johnson & Bassett, Incorporated.

Appointment of Matthew J. Quigley as New England district manager of **Interchemical Corp.'s** Textile Colors Division has been announced.

Benjamin R. Ebersman has been elected executive vice-president of **Hemphill Co.** He joined the company as sales manager in 1949 and will continue to hold that position. * * * Paul E. Howard, a member of the Hemphill organization since 1945, has been promoted to the position of superintendent of service for the company's southern territory. * * * Theodore T. Toole, Jr., who joined Hemphill in 1950 as a sales representative, southern territory, has been named director of sales for the same area. * * * Decatur Cunningham has been appointed to the southern division as a sales representative. He will make his headquarters in High Point, N. C.



**Mr. Howard** *(upper left)*

**Mr. Toole** *(upper right)*

**Mr. Cunningham** *(left)*

**International Salt Co., Inc.,** has been awarded the National Visual Presentation Association's first prize for the year's best slide film sales presentation with sound.

**Joy Manufacturing Company** has appointed Donald L. Archibald as district sales manager in the New England area, with headquarters in Boston.

**Kidde Manufacturing Co., Inc.,** Bloomfield, N. J., has announced the appointment of David L. Friday as head of the company's new southern sales office in Gastonia, N. C. Mr. Friday was formerly with Cocker Machine & Foundry Co.

**Lincoln Engineering Co.** has announced the appointment of Robert E. Crean as manager of the company's Philadelphia Industrial Branch sales office, succeeding M. C. Hazenfield who has retired.

The New York office of **Lockwood Greene Engineers, Inc.,** has been moved to 41 East 42nd St., New York 17, N. Y.

Melvin W. Pauly is new vice-president in charge of sales of the **Lunkenheimer Co.** He was formerly general sales manager. Chester C. Isekeit, formerly treasurer and controller, was elected vice-president and treasurer; Eibe W. Deck, vice-president in charge of manufacturing; Earl F. Riopelle, vice-president in charge of engineering and research; and Louis T. Huser, formerly assistant treasurer and assistant controller, was promoted to controller and assistant treasurer. Two new members were added to the board: Paul W. Christensen, president of Cincinnati Gear Co., and Richard E. LeBlond, president of R. K. LeBlond Machine Tool Co.

**National Ring Traveler Co.,** and Sterling Division announce the addition to the company's sales staff of

**Mr. Lanier**

H. Dorsey Lanier, who will represent National and Sterling in the Georgia and Alabama territories.

A new branch plant is being established in Longview, Texas, by **Sonoco Products Co.** for the manufacture of products for textile and paper mills in that section.

**Southern Dyestuff Corp.** has made the following promotions: T. Edgar White, sales manager; Feaster V. Tribble, manager Sherdye sales; and George L. Dozier, district manager.

**Stedco Southern, Inc.,** has been formed with the acquisition of Glover-Southern, Inc., stock by **Steel Heddle Manufacturing Co.,** and will continue operations at the Greensboro, N. C., plant. Officers of the new corporation are: H. W. Fehr, president, J. J. Kaufmann, Jr., executive vice-president, J. B. Bowen, vice-president, and A. P. Jones, secretary-treasurer.

The plant and equipment of the Limestone Starch Co. have been purchased by the **Stein, Hall & Co.,** through its wholly-owned subsidiary, Eastern Maine Starch Co. The plant will be continued in operation for the manufacture of potato starch. James H. Page and David Page are vice-president and assistant secretary of the company, respectively.

New executive vice-president and general manager of **E. E. Smith & Son, Inc.,** is Robert S. Brice. Mr. Brice formerly was with Dan River Mills, in charge of maintenance, machinery, and supply cost control.

**Southern States Equipment Corp.** recently announced the appointment of L. O. Talley as a sales representative. Mr. Talley, whose home office is

**Mr. Talley**

in Mexia, Texas, will represent Southern States in Texas, Oklahoma, Arkansas, and Louisiana. Mr. Talley was superintendent of the Mexia Textile Mills from 1945 to 1955.

New sales representatives for **Russell A. Singleton & Sons,** manufacturers of long draft aprons, of Belco, Texas, are: Julian Pool, LaGrange, Ga., to cover Georgia and Alabama; C. H. White, Charlotte, N. C., cover-


**The Better the Beam . . . the Better the Warp**

. . . Better Balance

Customers report these section beams, made of high strength aluminum alloys with eighteen ribs for maximum rigidity and durability, continue to run true after repeated warping and shipping cycles.

Heavy gauge steel tires are giving exceptionally trouble-free service, and our patented method of head mounting assures freedom from trapped yarn and economical replacement of all components.

Adaptable to all warpers, and supplied in both standard and special sizes to meet your requirements.

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**SALES REPRESENTATIVE**
Century old national manufacturer has unusual opening for technical salesman. Industrial sales experience to Greige Mills and/or synthetic mills required. Technical knowledge of textile field useful. Travel required in North Carolina and South Carolina. Our employees have been informed of this advertisement. Reply to Box 704, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

**POSITION WITH UNUSUAL OPPORTUNITY**
Young man not over 35 with knowledge of Textiles and some mechanical inclination for position as installation and service technician with textile finishing machinery company. Position has permanency, offers constant challenge with considerable travel. Replies held confidential. Reply to Box 698, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

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WE BUY COLORS AND CHEMICALS FOR CASH
Milroy Color & Chemical Co.
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**GUARANTEED USED BOBBINS**
Twister Bobbins for 4" Ring Twisters
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Position as superintendent. Cotton yarn mill. Twenty years experience wide range of yarns, cotton and waste. Reply to Box 702, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

SALES—Long established Philadelphia Co. desires textile institute or equivalent graduate with experience in textile chemicals for sales promotion work within 100 mile radius. Must have strong sales aptitude. Age 28-40. Salary followed by commission. Reply in detail to Box 706, TEXTILE INDUSTRIES, 806 Peachtree Street, Atlanta 5, Georgia.

**MECHANICAL ENGINEER**
EXPERIENCED IN DESIGN, OPERATION, AND MAINTENANCE OF BLEACHING AND FINISHING EQUIPMENT. AGE 30-45. LOCATION—SOUTHEAST. SEND RESUME AND SALARY REQUIREMENTS. Reply to Box 708, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

**POSITION WANTED**
Overseer spinning 44 years old, married, twenty-five years experience, I.C.S. Textiles, three years assistant superintendent running yarns 4's to 140's, also running carding and spinning. Go anywhere in U. S. or Canada. Prefer South. Reply to Box 701, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

EXPERIENCED OVERSEER CARDING SEEKING JOB IN THE CAROLINAS OR GEORGIA AVAILABLE AT ONCE. 23 YRS. AS A CARD ROOM EMPLOYEE 2 YRS. AS OVERSEER. GOOD MANAGER OF HELP. I.C.S. GRADUATE WOULD CONSIDER SHIFT FOREMAN. Reply to Box 705, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

**OPPORTUNITY**
For 2 or more cotton mill supervisors to lease or to buy a small coarse goods mill. Production can be contracted for all year round, if so desired. Write complete details of experience and financial reference. All replies will be kept in strict confidence. Reply to Box 707, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

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USED RODNEY - HUNT TRU SHADE STAINLESS STEEL DYE TUBS—AND—WILDMAN SPRING NEEDLE CIRCULAR KNITTING MACHINES. Reply to Box 709, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

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## SUPPLIERS News
WHAT THEY ARE DOING

ing North Carolina and Virginia; and Perry Clanton, Spartanburg, S. C., handling South Carolina, and assisting in the other two territories as needed.

H. Raymond Zayotti has resigned as manager of the New England sales and service branch of **Proctor & Schwartz, Inc.,** to accept an executive position with Forte, Dupee, Sawyer Co.

**Morris Speizman Co., Inc.,** has purchased the assets of the **American Textile Machinery Corp.,** and plans to build its Holdstitch machine in Charlotte, N. C. According to Morris Speizman, "it is our hope that we will be able to incorporate the Holdstitch design in the new 'Carolina' line of men's and ladies' seamless hosiery machines which we are developing."

William E. J. McMann has resigned as superintendent of dyeing at Dan River Mills to accept the position of branch manager of the new Danville, Va., office of **Textile Aniline & Chemical Co.**

New and larger laboratory and manufacturing facilities have been opened by **United Aniline Co.** at Norwood, Mass. Sales offices will also be located at the new Norwood plant, a two-story structure that has been completely remodeled.

**The Warp Compressing Machine Co., Inc.,** has been appointed sales representative for Bor-al-sil thread guides manufactured by **Richard H. Bird & Co., Inc.**

Technical representative for **Synthron, Inc.** in Virginia and North Carolina is M. M. McCann, replacing A. W. Taylor who recently resigned to become general manager of Burlington Industries' Altavista (Va.) Plant.

Appointment of William H. Curtiss, Jr., as general sales manager of the Pacific Coast Division of **Owens-Corning Fiberglas Corp.,** was announced recently. Mr. Curtiss, who has been sales manager of textile products for the division, now will also be responsible for sales of general products and sales of the company's west coast contracting, supply, and engineering subsidiaries. E. D. Herron, who has been sales manager of general products for the division, has resigned to become general sales manager of Commodore Industries, manufacturer of Fiberglas-reinforced plastic products, of Redwood City, Calif.

**Walton & Lonsbury** has appointed Phillip H. Slaughter southern representative.

New offices for the sale of yarns, wool, and synthetic fibers have been opened in Charlotte, N. C., by **John L. Stickley & Co.**

Appointment of John Benefield as sales technician has been announced by **Stein, Hall & Co., Inc.** He will operate from the company's Atlanta office. Mr. Benefield succeeds Bill Amos, who resigned to become general manager of the new finishing plant of Jefferson (Ga.) Mills.

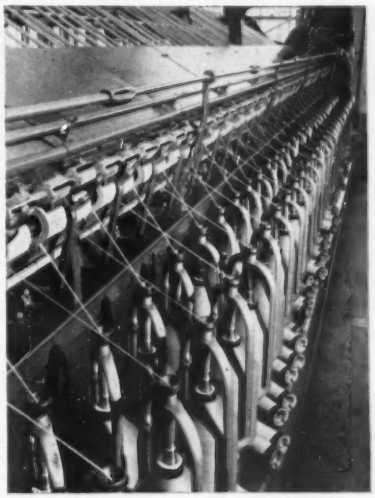
**Mr. Benefield**

**Uster Corp.** has named William B. Floyd testing equipment manager, to supervise the sales, installation, and service of all Uster textile testing equipment.

**Tyer Rubber Co.** announces the appointment of Frank Emmett as general sales manager; Carl Lamanna, sales manager, Footwear Division; and Harry Dinmore as sales manager, Industrial Products Division.

**Ultra-Violet Products, Inc.** has purchased the Old San Gabriel Winery, South Pasadena, Calif., as a site for its new $500,000 plant.

The world's first industry-owned, nuclear materials test reactor will be built by **Westinghouse Electric Corp.** at a cost of six and one-half million dollars. The full-scale test reactor, to be used for testing materials under conditions of intensive nuclear radiation, will be the first element of a "reactor center" to be built by Westinghouse, who will ask approval of the Atomic Energy Commission to locate the reactor center on the company's 550-acre site near Blairsville, Pa., 40 miles east of Pittsburgh. The Westinghouse Test Reactor will operate in the range of 10,000 kilowatts.



**HALO...**

**TWIST CONDENSERS ROVING PRETWISTERS***

The two design HALO TWIST CONDENSER gives maximum pretwisting and uniformity of twist on all flyers. One design fits on the front flyers and one fits on the back.

Condensers fit snugly on the flyer and are made of synthetic rubber so as not to be affected by oils on fibers.

In extensive tests actually in the mills, it has been proved that the HALO TWIST CONDENSER effects the following conditions: less ends down, less waste, heavier bobbins, more uniform yarn, up to 20% higher production, and lower costs.

Write for details today. Orders will be filled in one to ten days.

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*Tillicum*

**RUBBER COMPANY**

**LACEY WASHINGTON**

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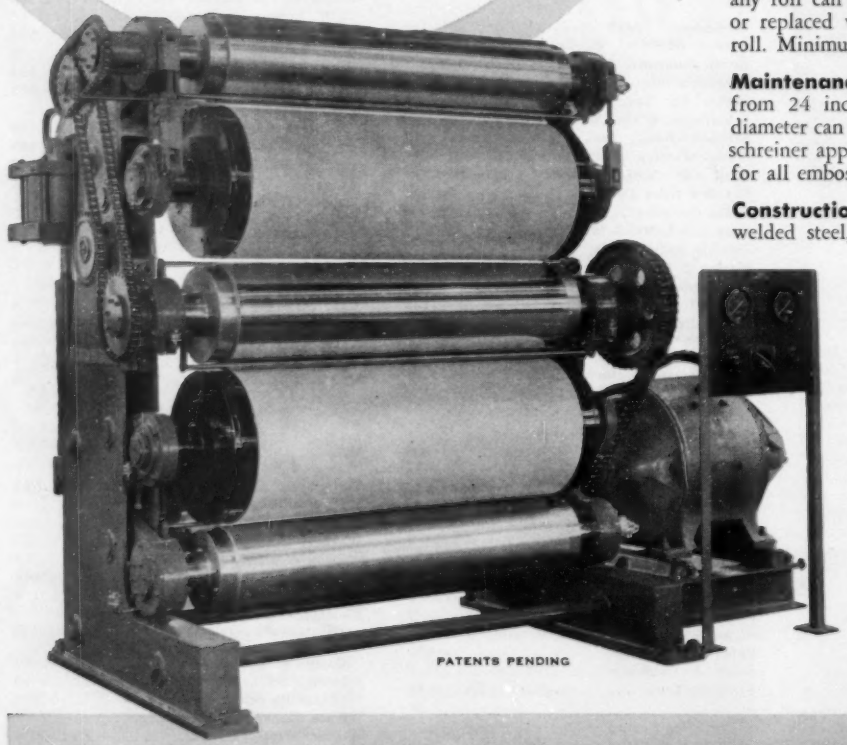

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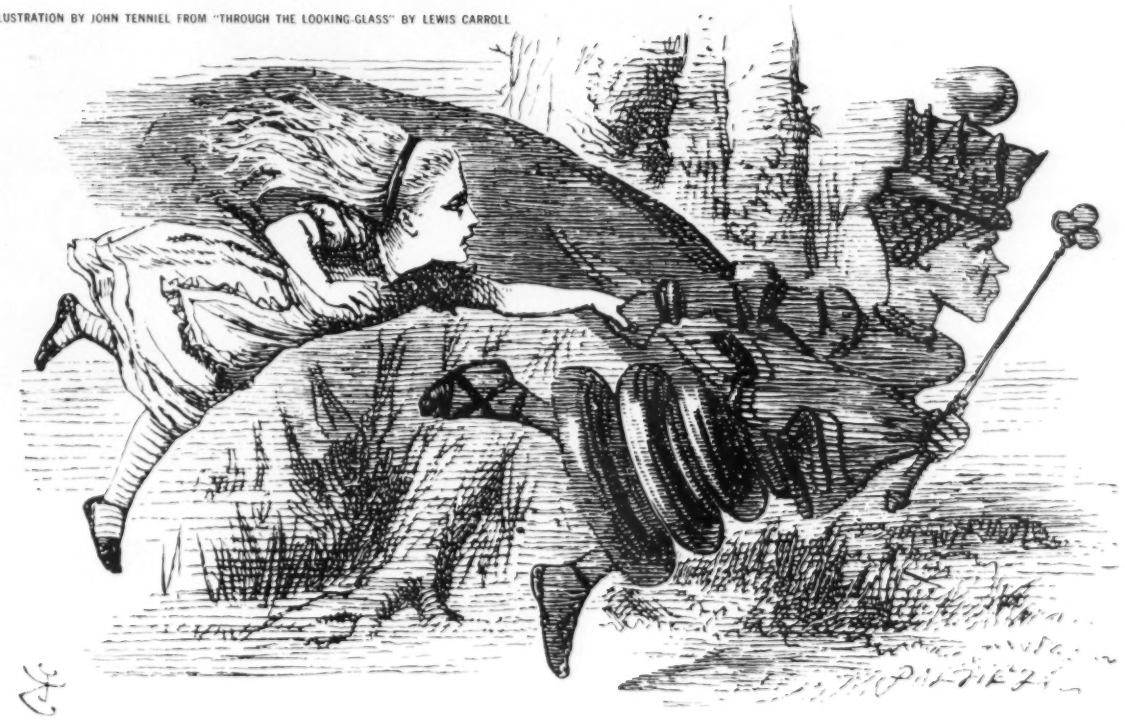

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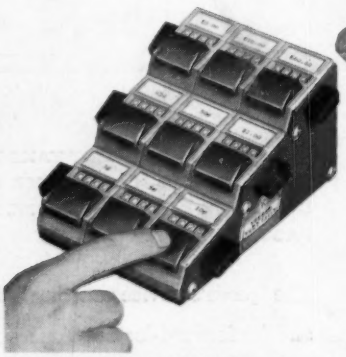

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